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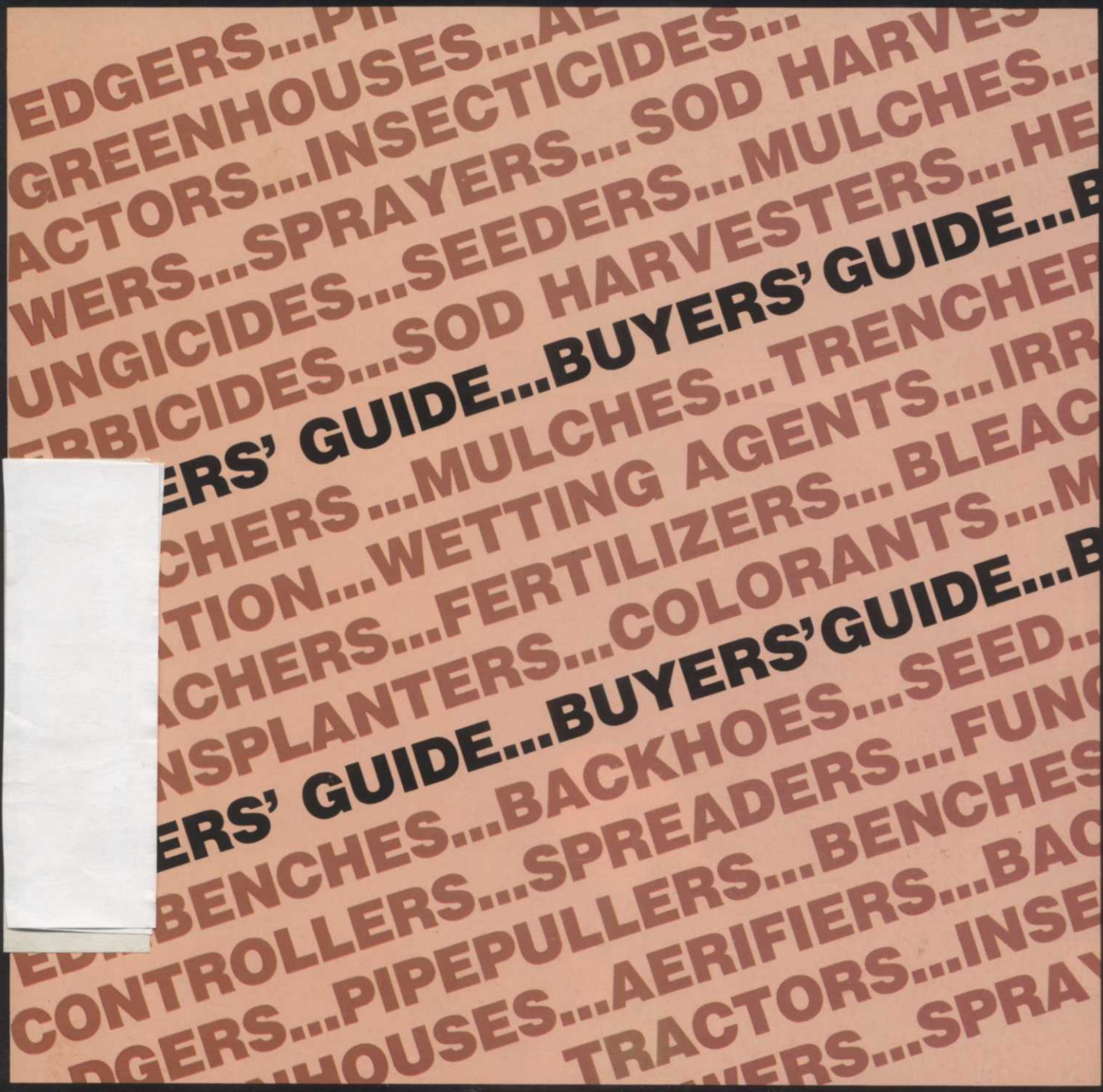
Winter Overseeding Mixtures Compared

Arborists Report Moth Aftermath

Late Flowering Trees for Summer Color



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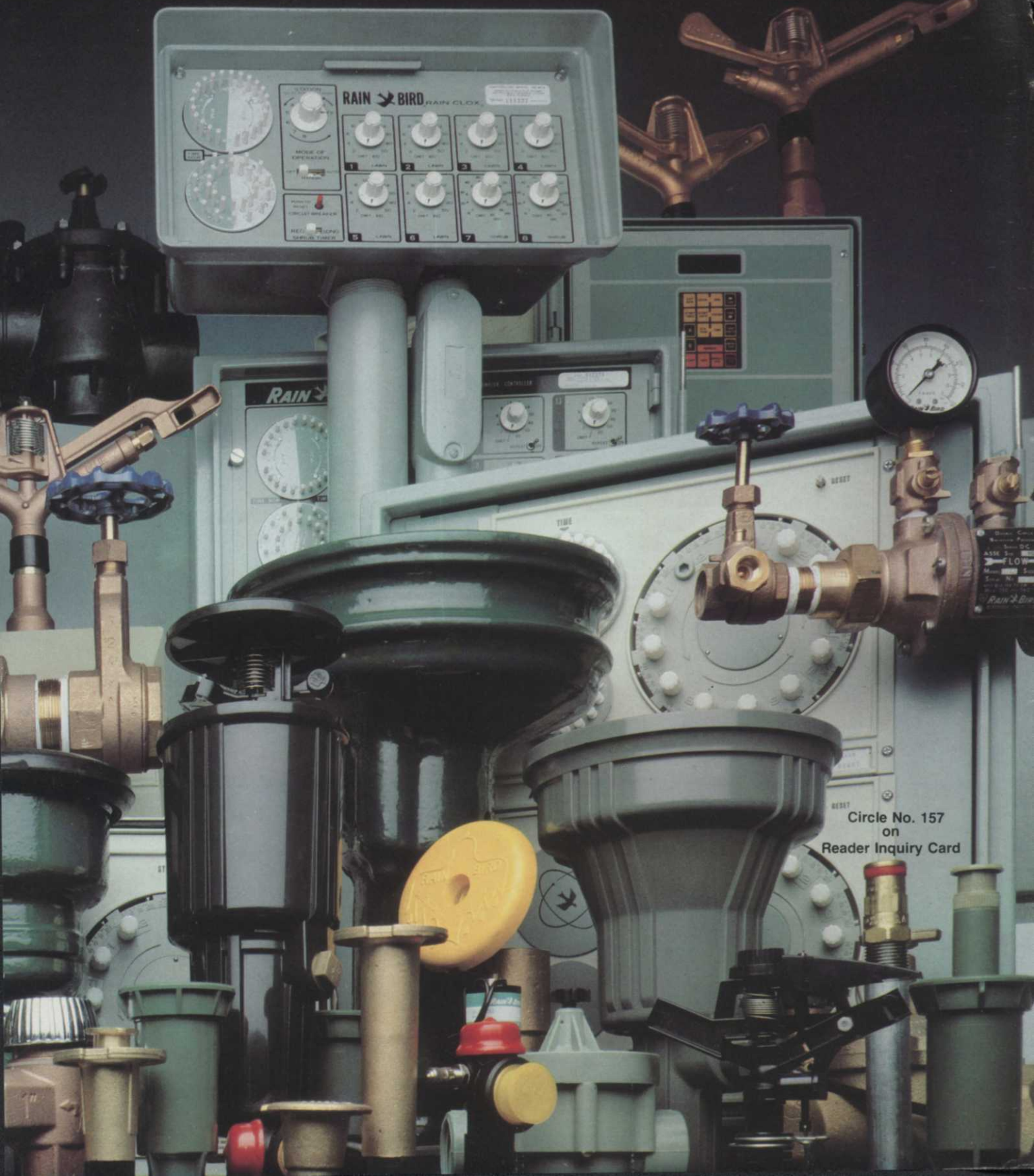

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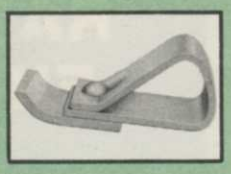

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OUTLOOK

By Bruce F. Shank, Executive Editor

Conflicting signals on pesticide develpment

A recent increase in the number of pesticide products gaining registration will hopefully continue, but signals from industry and government seem to indicate otherwise.

Mergers may play a role equal to government regulation in the future development of pesticides. Mobil's sale of its agricultural chemical division to Rhone Poulenc was surprising in light of its participation in the Conoco takeover. Du Pont's interest in Conoco is fairly evident since it is highly dependent upon oil resources for its products. The Boots/Fisons merger in the U.S. seems to show togetherness is better in chemical development and marketing.

The result of mergers is obvious; fewer, bigger chemical companies. Does this mean that combining resources will improve research investment and result in more new products? Or will it mean less competition, dropping of minor use products, and higher prices?

Both the cost of registration and liability in case of disposal problems is forcing chemical companies to be more selective in products offered. This extra caution is necessary for chemical companies to protect their market stability in today's merger-mad market.

Integrated pest management is expected to cut agricultural chemical sales in the next decade. Since most landscape products are developed from agricultural products, the prospects are not as rosy even though IPM is not expected to cut landscape chemical use appreciably.

Biological or bacterial production of chemicals is the new wave. No chemical company wants to be left out of that market as it develops due to technological breakthroughs.

Data compensation between chemical companies is still not resolved by the Environmental Protection Agency. Data is still duplicated at high cost to support new registrations when it exists in the files of other companies.

On top of all this, EPA's new administration has reorganized the enforcement division. Companies now have to get new assurance of the rules before proceeding with current and new products.

The small manufacturer must feel lost in all this confusion.

Regardless of the intent of the Reagan administration to provide more encouragement to manufacturers, market conditions are keeping the lid on and finishing the job EPA started in the early 70's. The numbers get bigger and bigger. Small users have a harder time gaining the attention of chemical manufacturers. And the prices keep going up.

You can't blame the chemical companies. They, like you and I, are trying to survive. With so many conflicting signals, they have to be cautious and we have to fight harder for attention. **WTT**

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GREEN INDUSTRY NEWS

Medfly impact small on contractors

The Mediterranean fruit fly infestation has embarassed state officials, traumatized consumers and imperiled California's lucrative fruit crop. Arborists and landscapers, however, have not been greatly effected. Tree people throughout the infected area in central California say that they were besieged by requests for help and information but weren't able to do too much to help.

"We had an awful lot of telephone calls. People wanted advice," says Susan Pitt, office manager of S.P. McClenahan Company in the Portola Valley. "We gave them support and advice. There was no real impact on business, but it caused an awful lot of office work."

Jane Lesh, secretary-treasurer of Lee's Tree Surgeons in Saratoga thinks that the controversy may have "caused people to look at their trees and think about them." Lesh voiced a common complaint when she explained that possible business increases from fruit stripping were offset by the "indecision about the whole thing. People would call one day and say 'you have to strip the walnut trees,' and the next day they would be told no."

Gil Mitchell, a partner in Able Tree Surgeons, San Jose, says that in addition to the "vacillation" of officials, demand for stripping was low because "people didn't want to put out the bucks for it. A lot of people thought they could strip the trees themselves or waited for the California Conservation Corps to come by or they just didn't give a damn. Some didn't think it would be effective."

Even when people were sure they wanted their fruit stripped, tree surgeons weren't always able to be of service. "We just don't have the time to do it,' says Susan Pitt. The man hour rate is too expensive to send a tree surgeon to strip trees. We advised clients to get someone local to strip the trees."

Arborists were not asked to spray against the Medfly. The government took care of the aerial and ground spraying and "preferred that people not spray by themselves," according to Pitt. Agricultural Pest Control Operators were asked not to duplicate the job. Mitchell says that there was a negative impact on spray business because people "think that malathion spray is sufficient for all pest troubles. Sprayers lost a lot of business."

Malathion did eliminate many insects and was good for indoor landscapers, according to Alrie Middlebrook of Interior Landscape Design, Inc. in San Jose.

The long range effects of the infestation are mixed. The public is more aware of the importance of tree care. Some people may want to avoid plants, shrubs or trees that attract the Medfly. Fruit trees may not bear as well next year because of the damage caused by improper stripping.

One thing is clear. As Andrea Golden of Interior Landscape Design observed: "it will certainly be a lot of work for people cleaning up the mess."

25 year service award is presented during the Central Pennsylvania Golf Course Superintendents Association annual meeting to John Boyd of Hershey Country Club (left) by president David Portz.

Floraboard stalled in Congress

Congressional action on the Floraboard plan to establish a research and promotion program that would increase demand for flower and plant products has been delayed. The bill has been introduced in the House of Representatives, but has not yet been introduced in the Senate.

Floraboard is a "producer's program designed to increase demand for floral products similar to the programs for other agricultural commodities such as cotton, wool and milk," according to Barbara Kratchman, publications editor for the Society of American Florists (SAF).

Under the Floraboard system, growers and importers would be assessed a certain rate of sales per year, thus generating a fund of $7-9 million in the program's first year. For the first two years producers and importers would pay at a rate of one half of a percent per year. Each year the rate increase may not exceed one quarter of a percent, with a maximum assessment of one and a half percent of sales. Only firms with more than $100,000 of growth sales would be assessed.

The program will be administered by the Floraboard, a 75 member board consisting of industry representatives nominated by producers' and importers' organizations, and appointed by the Secretary of Agriculture. The board's major objective, Kratchman says, will be to increase demand for flowers and plants and thereby "even out consumer buying patterns. On five major occasions each year (Valentine's Day, Easter, National Secretary's Week, Mother's Day and Christmas) growers sell all they can. They are forced to produce in an inefficient manner." Kratchman points out that "demand hasn't increased in six years. The full market potential of cut flowers, cut greens and foliage has not been realized.

"The program is producer conceived, created and directed," Kratchman emphasizes. "Because it's a mandatory assessment the government has to have its finger in it, but it is a producer's program. Floraboard will only implement what the producer's okay."

The program must have major industry backing. A referendum will be held and two thirds of all producers have to

Continues on page 8

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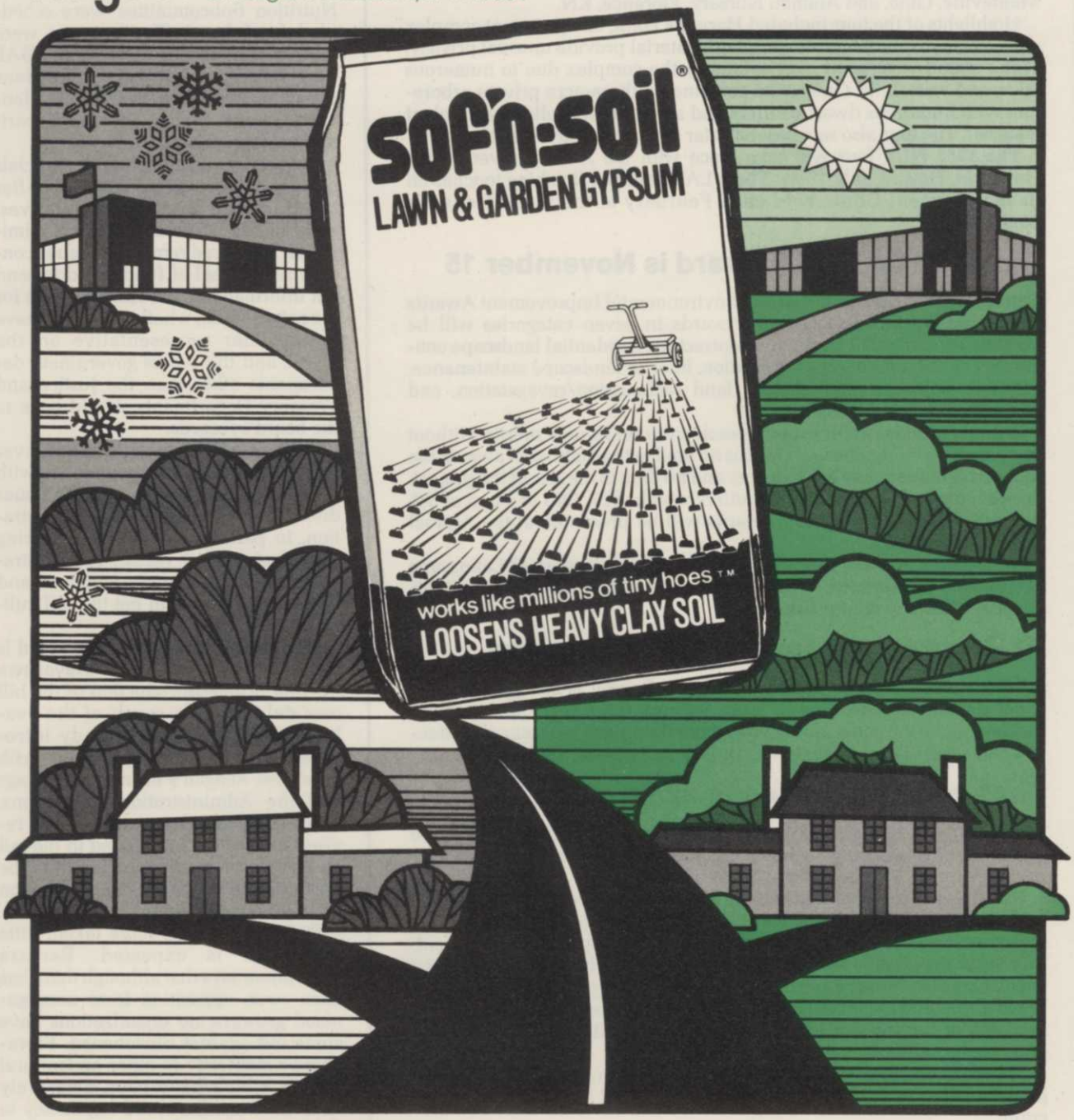

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LANDSCAPE UPDATE

NLA landscape tour views Cincinnati

More than 200 members of the National Landscape Association toured a cross section of Cincinnati landscapes during the recent America Association of Nurserymen Convention and Trade Show there.

Ken Natorp, president of W.A. Natorp Co., Cincinnati, guided the tour to urban parks, office plazas, suburban apartments complexes, and two residential estates. Much of the construction and design had been performed by Natorp's firm, Thorton Environmental Industries of Maineville, Ohio, and Ammon Nursery, Florence, KN.

Highlights of the tour included Harper's Point, an apartment complex where many water features and plant material provide unusual privacy. Water sound was heard everywhere in the complex due to numerous lakes and waterfalls. One estate contained a three-acre private arboretum with numerous dwarf conifers and an elaborate collection of plant material. The tour also saw baseball star catcher Johnny Bench's home.

The 1982 NLA tour will take place with the AAN Convention in Honolulu, Hawaii, July 17-21. The NLA Board put finishing touches on its management Clinic held each February at the Gault House in Louisville, KY.

Deadline for ALCA award is November 15

Entries for the 12th Annual ALCA Environmental Improvement Awards are sought by the assocciation. Awards in seven categories will be awarded: commercial landscape contracting, residential landscape contracting, interior landscape installation, interior landscape maintenance, exterior landscape maintenance, land reclamation/revegetation, and design/build landscaping.

A panel of judges will evaluate each entry on its own merits, without comparison to other entries. There is no limit to the number of awards the judges can make in any one category and no limit to the size of the project. Project entries will be accepted until November 15, 1981 at a cost of $85 per entry ($70 for members). Awards will be presented at the Annual Meeting in January.

Information and entry forms are available from Associated Landscape Contractors of America, 1750 Old Meadow Rd., McLean, VA 22102. Awards chairman is Ann Lambeth.

ALCA prepares for Palm Springs show

Exhibit space for the annual ALCA Trade Exhibit is going faster than usual for the 1982 meeting in Palm Springs, CA. Indoor and outdoor displays make the show attractive to more than 1,000 landscape contractors each year. The date for the show is January 24-27, 1982.

First interior landscape exam nears

The National Council for Interior Horticultural Certification plans to give its first exam during the Interior Plantscape Association Show, October 28-30, at the Radisson Hotel, St. Paul, MN.

NCIHC is an independent self-sustaining council formed to recognize qualified interior landscape contractors and their job worthiness. Requirements for taking the exam include five years experience in the field, four years experience and an associate's degree in horticulture, or three year's experience and a bachelor's degree. Each applicant must submit photographs and documentation of four jobs completed and belong to either IPA or the Interior Landscape Division of ALCA. The applicants must pledge adherence to a code of ethics.

The exam will also be given at the ALCA Show in Palm Springs, CA, in January 1982. ALCA has endorsed NCIHC and its certification program.

For information contact the National Council for Interior Horticultural Certification, PO Box 17148, Washington, D.C. 20041.

News *from page 6*

approve of the program or Congress won't pass it. The Floraboard Development Committee of the SAF will administer the referendum, with Congressional oversight.

In the House, the bill's primary sponsor is Rep. Tony Coehlo (D.-California). By mid-July, 28 other representatives had signed on as co-sponsors of Floraboard. Floraboard hearings before the House Agriculture Domestic Marketing, Consumer Relations and Nutrition Subcommittee were scheduled for July 14. The hearings were postponed in order to allow the SAF time to respond to some questions raised by officials in the Office of Management and Budget and the Department of Agriculture.

Originally, administration officials contested 11 provisions in the bill. After meeting with SAF representatives, eight of the 11 problems were eliminated. The three remaining issues concern reimbursal of funds used to send out information to educate growers for the referendum, whether or not to have a consumer representative on the board, and the access government departments other than the Justice and Treasury Departments should have to the board's records.

At the SAF's convention in Denver on July 31, special sessions dealing with Floraboard, in general, and the issues dividing the SAF and the Administration, in particular, were held. During Congress' August recess, Administration officials, SAF representatives, and legislators met to iron out the difficulties.

The Senate version of Floraboard is sponsored by Senator S.I. Hayakawa (R.-California). Introduction of the bill was delayed as a result of the avalanche of legislation already introduced, the Senate's preoccupation with President Reagan's economic package and the Administration's objections. Senate strategists are not sure if the revised bill will be introduced in the fall on its own or as an amendment to the Farm Bill, the periodic reauthorization of major farm programs.

Regardless of the route taken, little opposition is expected. Barbara Kratchman says that although there has been some opposition from nonorganized growers, no organizations have come out against Floraboard. Floraboard's similarity to other agricultural boards which have been extremely successful has bestowed legitimacy to the legislation in the eyes of the Congressmen.

The precise time the bill will come

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News *from page 8*

up is difficult to say. Congressman Coehlo says that Floraboard has an "excellent chance to pass in this Congress. No major objections have been raised. We're very optimistic that we'll get it done."

NURSERY

AAN show excels in Queen City

Despite hotel renovation, rain, and heat, the American Association of Nurserymen Allied Trade Show in Cincinnati was productive and well organized. Nine separate but related groups held board meetings, educational sessions, and visited the exhibits across the street in the convention center.

A few of the highlights were the landscape and garden center tours, the

Bess Myerson spoke during the MAN luncheon pledging her support to help keep that industry consumer conscious.

Mailorder Association of Nurserymen luncheon speaker Bess Myerson, and riverboat cruises at night. The presidents of nearly every Green Industry association were present at the recognition luncheon where Dr. Richard Harris of the University of Louisiana, Dr. Jacob Tinger of the University of Georgia, Dr. Eric Lawson of the University of Syracuse, and Richard Hutton of Conard Pyle were recognized for their contributions to the nursery industry.

Ohio State University was recognized for its 100 years of service to the industry and many OSU staff participated in the educational sessions including Dean Roy Kottman and Dr. Elton Smith. Topics included improving container production, poly house construction, marketing bedding plants, winter hardiness, nursery cooperation with arboreta, tissue culture and marketing.

Continues on page 14

GOVERNMENT UPDATE

by William Hoffman

EPA reorganizes enforcement

EPA Administrator Anne Gorsuch abolished EPA's offices of Enforcement and Planning and Management in a major reorganization that became effective on July 1. Gorsuch named John Horton, a New Jersey engineer and businessman to be the Assistant Administrator for Administration, a new position created in the reorganization shuffle. Horton will direct personnel, organization, information, data systems, facilities and fiscal and contract management functions. Other Assistant Administrators in the new reorganization will be Pesticides and Toxic Substances, Water, Solid Waste and Emergency Response, Research and Development and Air, Noise and Radiation.

Gorsuch also created two Associate Administrator positions—one for Policy and Resource Management and a second for Legal Enforcement Council. The Office of Policy and Resource Management will oversee resource allocations, standards, policy, regulations, legislative analysis and development processes and program and management evaluation activities.

The reorganization provides that enforcement relating to Pesticides and Toxic Substances, Solid Waste and Superfund, Water, Air and Noise and Radiation will be established in the program offices.

Sanford Harvey, Jr., now Deputy Administrator for Mobile Source, Noise and Radiation Enforcement was chosen by Gorsuch to be Director of the Office of Pesticides and Toxic Substances Enforcement. Kitty Adams, formerly a private environmental consultant, and Joseph A. Cannon, a staff member on the Reagan-Bush Presidential Committee, will each have the title of Gorsuch's special assistant for Regulatory Reform.

Disasters and Finances Plague Minneapolis

One of the most active shade tree programs in the country is in Minneapolis, MN. The spread of the Dutch elm fungus to that part of the nation several years ago destroyed thousands of elm trees and emphasized the need for such a tree program. More than 100,000 trees have been planted on city streets since 1975. Maple, linden, pin oak, hackleberry, green ash, honey locust and ginko trees now stand where elms once stood. While the city still has about 125,000 elm, 4000-5000 trees are lost each year. Over the next thirty years all of the city's elms will fall victim to Dutch elm disease.

This disease is not the only worry of the city forester, Dave DeVoto. Community grant funds from the Minnesota Department of Agriculture have been cut from $2 million to $1 million next year. To add to his woes, on June 14, a tornado blew through a part of the city and knocked down more than 4000 trees. It cost $350,000 to remove downed trees and weakened limbs from trees that were damaged but not uprooted. The trees will not be replaced so quickly since it costs about $75 for each new tree, not including labor and equipment costs.

Ingredient Analysis Reflects Well

How many times have you looked at a pesticide ingredient and wondered how well the percentage figures actually reflect what is in the product? The Maryland Department of Agriculture has just released the analytical results of about 1,500 analyses of pesticide samples collected from November 1, 1979 through October 31, 1980. Only 47 (approximately three percent) were withdrawn from sale because of adulteration or product quality below guarantee. The samples came from 357 registrants and are a credit to the pesticide industry in the United States.

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News *from page 11*

Participating at the show were American Association of Nurserymen, All-America Rose Selections, Garden Centers of America, Horticultural Research Institute, Mailorder Association of Nurserymen, National Association of Plant Patent Owners, National Landscape Association, Wholesale Nursery Growers of America, and representatives from Associated Landscape Contractors of America, Professional Grounds Management Society, and the National Arborist Association. The 1982 show will take place next July in Honolulu, Hawaii.

LANDSCAPE

Shaw resigns post as ALCA regroups

The executive director of one of the most aggressive associations in the Green Industry, The Associated Landscape Contractors of America, has tendered his resignation to the board as of August 31, 1981. John Shaw served ALCA for four-and-one-half years and was the first full-time director not allied to an association management group.

ALCA's planning board recently approved a goal to regionalize more association functions. Recession has put added pressure on all associations, Shaw said, and the average stay of association executives is four-and-one-half years. "ALCA has a great future, as does the entire industry," Shaw said.

RESEARCH

Nebraska alumni honor Fred Grau

Fred V. Grau, president of the Musser International Turfgrass Foundation and developer of Penngift crownvetch, is one of seven recipients of the 1981 University of Nebraska — Lincoln Alumni Achievement Award. The award recognizes alumni who have compiled an outstanding record of achievement.

Dr. Grau worked with Dr. Musser at Pennsylvania State University, served as head of the United States Golf Association Green Section, and participated in the development of the aerifier, Meyer zoysiagrass, and numerous other turf management technologies. He resides in College Park, MD, and owns a farm where he produces crownvetch seed in Pennsylvania.

GOLF UPDATE

San Francisco to welcome supers in '85

Golf Course Superintendents Association of America President Mike Bavier recently announced the selection of the George Moscone Convention Center in San Francisco as the site of the 1985 International Turfgrass Conference and Show, January 30 to February 5.

The growth in size of the show in the past four years has caused the association to look for larger convention facilities. The 1981 show in Anaheim had a gate total of 17,950 and more than 200 exhibitors.

This winter the show will take place in New Orleans and will return to Atlanta in 1983. Las Vegas is set for the 1984 meeting.

Architects predict increase in building

The American Society of Golf Course Architects predict that golf course construction and remodeling will increase next year. ASGCA President Dick Nugent said hazards must be adapted to avoid penalizing the good golfer. ASGCA polled its members for the information. It discovered that members believe most construction will entail real estate developments although solid interest for more municipal and public courses continues in most sections of the country. The natural look will be sought in the future.

Palmer Maples is Summit Chase super

Palmer Maples, long time director of education for the GCSAA, has accepted the superintendent's position at Summit Chase Golf Club in Snellville, Georgia. He began his new position in mid-August and moved his family there in early August. He will contribute significantly to the club and to golf in the Atlanta area.

New York turf conference moves to Albany

The New York State Turfgrass Conference and Trade Show will be held in Albany, NY, from November 17-19 according to Ann Reilly, executive director. The show will take place in the Empire State Plaza. Exhibit space is two-thirds sold already.

This year NYTA has added two afternoons of equipment demonstration especially designed for turf equipment mechanics. This is in addition to a broad educational program for all phases of turfgrass management. Recertification credits are given for attendance and apply toward pesticide license requirements.

For further information contact Ann Reilly, 210 Cartwright Blvd., Massapequa Park, NY 11762. Exhibitors should contact Ed Worthington Corp., 50 Petrova Ave., Saranac Lake, NY 12983.

NGF calls forum to discuss changes

The National Golf Foundation is inviting golf leaders to a "Forum of Golf" in Dallas, October 18-20 to discuss and recommend ways to counteract serious changes in the business of golf in the past few years.

The rising age of the typical golfer and the decreasing rate of participation are just two of many topics the leaders will seek solutions to. James Long, senior vice-president of Spalding and NGF president will chair the meeting. Also attending will be PGA's Deane Beman, LPGA's Ray Volpe, and PGA's Joe Black as well as other members of the NGF board.

The goals of the group are to devise plans to increase the number of golfers, increase the rounds of golf played, and increase the number of golf courses where needed.

NGF is directing more of its effort toward promoting the game of golf, in addition to keeping vital statistics on its state.

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FIVE YEAR TESTS REVEAL TRAITS OF WINTER OVERSEEDING MIXTURES

By Jeffrey V. Krans, associate professor, crop science; and **Charles Scoggins,** golf course superintendent, Mississippi State University, Mississippi State, Mississippi.

Winter overseeding is the late fall seeding of one or more cool season turfgrass species/cultivars onto the surface of an established warm season turf. Winter overseeding practices are well established and date back to the early uses of grass for putting surfaces in the South. Overseeding of bermudagrass putting greens provides an improved putting surface and more aesthetically pleasing turf compared to the dormant turf of bermudagrass. Species selection for winter overseeding putting greens 10-12 years ago was dominated by annual ryegrass. Today, improved cultivars of perennial ryegrass are the predominate species used in winter overseeding. The number of commercially available perennial ryegrass cultivars advertised for winter overseeding on putting greens has increased each year and presently stands at approximately 20 available cultivars.

The use of perennial ryegrass for overseeding putting greens includes both monostands and polystands (blends and mixtures). Overseeding mixtures of perennial ryegrass are generally composed of one or more cool season turfgrasses including fine-leafed fescues, rough bluegrass *(Poa trivialis)*, Kentucky bluegrass and creeping or colonial bentgrass. The perennial ryegrass component of these mixtures provides rapid establishment, environmental hardiness, wear tolerance and sustained and uniform growth. The other turfgrass components used in these mixtures are generally added to provide improved characteristics of putting quality (fine texture, high shoot density, smoothness, etc.) and/or regulate stand persistence in the spring.

Greens were divided in half for tests. Differences were not apparent to golfers either in appearance or play.

The evaluation of cool season turfgrass blends and mixtures for winter overseeding putting greens is unique compared to other types of turf evaluations. Winter overseeded species are evaluated as an annual turf, when in fact, all species except annual ryegrass are perennial in nature. In addition, seeding rates of overseeded blends or mixtures on putting greens exceed by 3 or 4 fold recommended seeding rates for establishment of these same species when planted as a perennial or non-overseeded turf. The evaluation of overseeded species takes into account not only turf quality as a component of performance, but establishment rate and density of the overseeding (fall transition) as well as rate and schedule of overseeding dieback (spring transition). Ideally, an overseeding selection for putting greens should provide rapid, uniform and high initial shoot density during fall transition, followed by sustained, uniform and high shoot density and green color throughout the winter and early spring. Spring transition, which occurs in late spring or early summer, should be a smooth and controlled dieback of the overseeding allowing a gradual and uniform green-up of the bermudagrass without significant sacrifice in putting quality.

The most common approach to a turfgrass evaluation program is to utilize replicated field trials at state, federal or private research locations using small plots (20-50 sq. ft.). Although this evaluation approach is beneficial and most times the only available procedure, the information gathered is limited by plot size and actual elements of turfgrass use and culture. The close proximity of small plot field trials allows rapid and convenient observations of comparative difference between entries. These comparative differences, however, can be readily overemphasized and may or may not be significant to the consumer (homeowner, golfer, etc.).

In the fall of 1976, an overseeding evaluation approach was undertaken to evaluate overseeding species performance using large plots (1000-2000 square feet) and a cultural and use environment representative of putting greens. This evaluation approach was conducted by utilizing an 18-hole public golf course owned and operated by Mississippi State University. All entries were evaluated by splitting each of the 18 putting greens into half and each half section seeded to a randomly selected overseeding entry. This design provided a total of 36 plots or half greens. All

Continues on page 18

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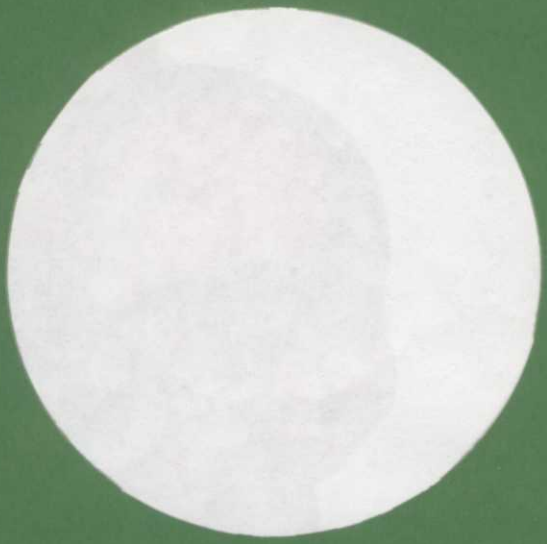
Table 1. List of overseeding entry, composition, years evaluated, seeding rate and seed company which supplied each entry evaluated on the putting green surfaces of Mississippi State University — Lakeside Golf Course during a 5 year evaluation period (1976-80).

Overseeding entry	Species composition	Year(s) evaluated	Seeding rate	Seed Supplier
			lbs/1000 sq. ft.	
Derby	perennial ryegrass	1976-78	40	International Seeds, Inc.
Dixie Green	perennial ryegrass + fine-leafed fescue	1976-79	35	
Dixie Green + Sabre	perennial ryegrass + fine-leafed fescue + rough bluegrass	1977-79	20	
Phd	perennial ryegrass blend	1979	40	
Medalist 2	perennial ryegrass blend	1976-77	40	Northrup King & Company
Medalist 5	perennial ryegrass blend	1977-79	40	
Medalist 6	perennial ryegrass blend	1978 & 1980	40	
Medalist 7	perennial ryegrass blend	1980	40	
Medalist 400	perennial ryegrass + fine-leafed fescue	1977-78	35	
NK formula C	perennial ryegrass blend	1979	35	
Regal	perennial ryegrass	1977-80	40	International Seeds Inc.
Celebrity	perennial ryegrass + fine-leafed fescue			
Super Celebrity	perennial ryegrass + rough bluegrass	1980	20	
Celebrity Plus	perennial ryegrass + fine-leafed fescue + rough bluegrass	1979	20	
Futura	perennial ryegrass blend	1978	40	Pickseed West, Inc.
Futura Plus	perennial ryegrass blend	1978 & 1980	35	
Diplomat & Yorktown	perennial ryegrass blend	1976	40	Lofts Pedigreed Seeds, Inc.
Diplomat	perennial ryegrass	1976-77	40	
Diplomat & Yorktown II	perennial ryegrass blend	1976	40	
Yorktown	perennial ryegrass	1976-77	40	
Yorktown & Jamestown	perennial ryegrass + fine-leafed fescue	1976	35	
Triplex	perennial ryegrass blend	1977	40	
Yorktown II	perennial ryegrass	1977	40	
Marvelgreen	perennial ryegrass blend	1978	40	
Marvelgreen 3+1	perennial ryegrass + fine-leafed fescue	1978	40	
Marvelgreen + Sabre	perennial ryegrass + rough bluegrass	1978	20	
Winterturf 1	perennial ryegrass blend	1976-78	40	O. M. Scott and Sons
Winterturf 3	perennial ryegrass + Kentucky bluegrass	1976	30	
702 Blend	perennial ryegrass blend	1977	40	
Caravelle	perennial ryegrass	1977	40	
Loretta	perennial ryegrass	1978	40	
CBS	perennial ryegrass blend	1976-79	40	Turf-Seeds, Inc.
Omega	perennial ryegrass	1976	40	
Citation	perennial ryegrass	1977-79	40	
Manhattan	perennial ryegrass	1977-78	40	
Citation + Oregreen	perennial ryegrass + perennial x annual hybrid	1979	40	
Pennfine	perennial ryegrass	1976	40	Sanford Seed

Continues on page 23

Circle No. 143 on Reader Inquiry Card

Now, one-shot white grub control.



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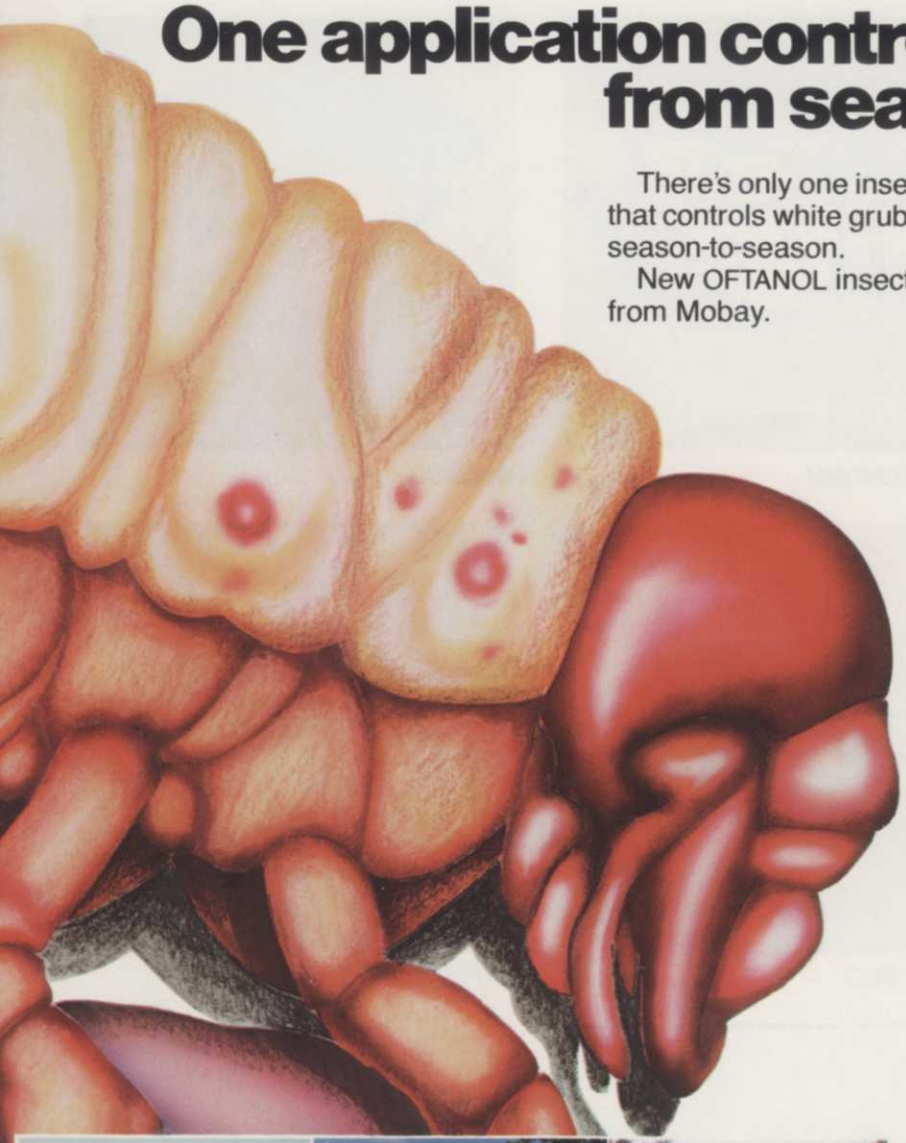
One application controls white grubs from season-to-season.



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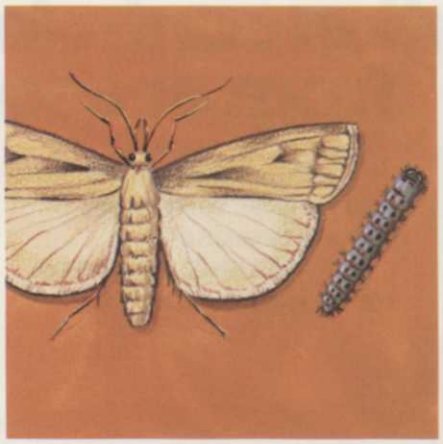

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Table 2. 5 year average performance ratings of selected winter overseeding entries evaluated on the putting greens of Mississippi State University — Lakeside Golf Course.

Visual Turfgrass Performance Ratings[1]	
Overseeding entry	5 Year Average
CBS	6
Pennfine	6
Derby	6
Winterturf 1	7
Citation	6
Regal	7
Medalist 5	6
Dixie Green	6
Dixie Green + Sabre	7

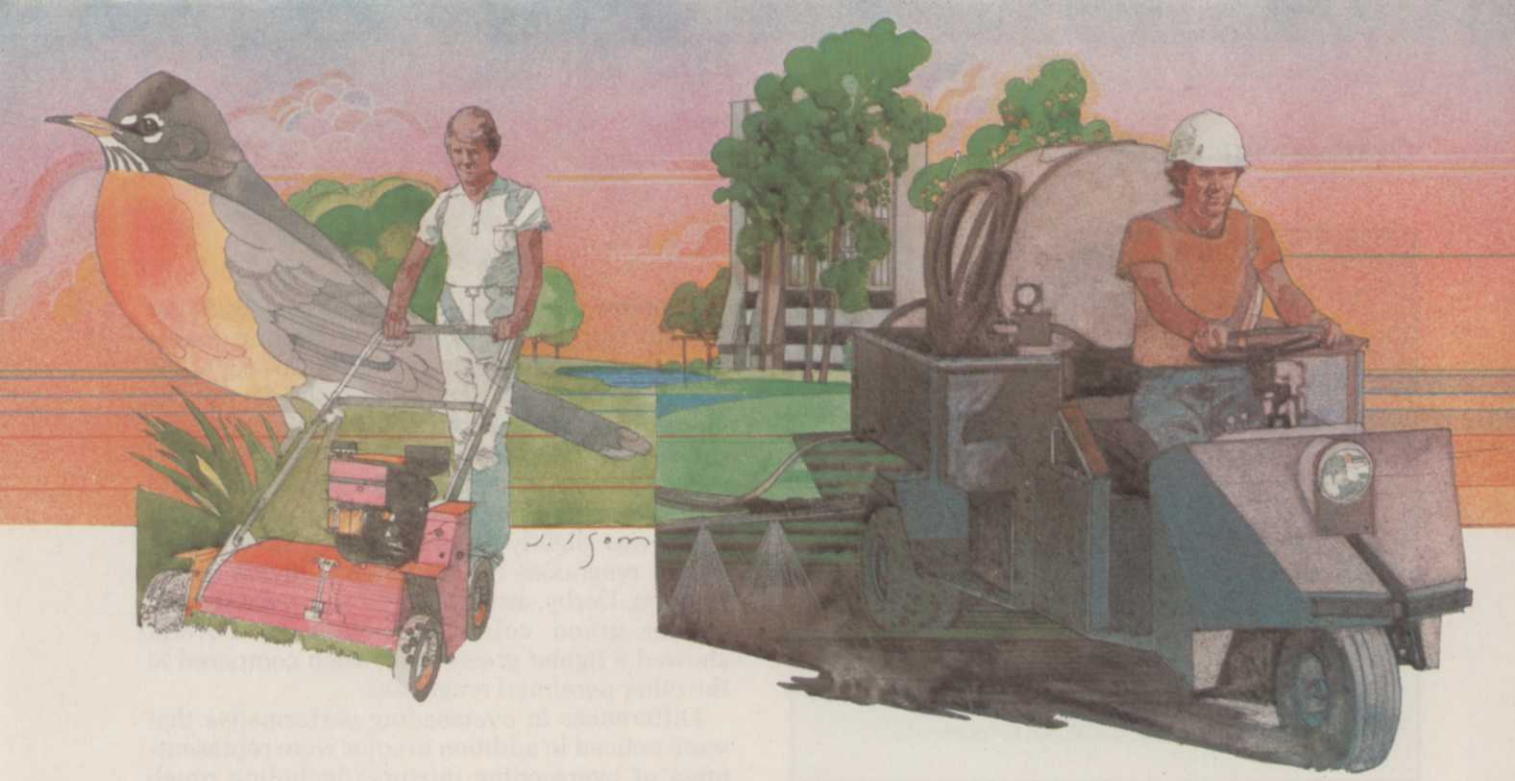
[1]Visual performance rating scored 1-9; 1 = poorest and 9 = best.

entries were replicated twice and provided space for 18 selections. Overseeding entries used in the evaluations were limited to commercially available monostands, blends and/or mixtures marketed for overseeding use. Performance evaluations were based on a minimum of monthly visual observations and ratings using a numerical scale of 1 — 9; with 1 = poorest and 9 = best. Performance ratings were conducted by various groups including golf course superintendents, golfers, golf professionals and university students and researchers. All seed companies participating in these tests supplied entries on a voluntary basis and were required to supply seed for 2 replications. Seeding rates and choice of entries were decided by the seed companies cooperating. Due to changes in yearly participation of individual seed companies and entry choices, a wide variety of different entries were used in the overall 5 year evaluation period. The list of overseeding entries used for one or more years over the past 5 years is presented in Table 1. Overseeding performance scores which are reported represent only those selections which were evaluated 3 or more years out of 5 (Table 2). The findings in overseeding performance, as shown in Table 2, are generally representative of the other entries included in the evaluation program 2 years or less. The entire evaluation using putting greens for plot area was carried out over 5 consecutive years (1976-1980).

The 5 year average scores showed little or no difference between winter overseeding entries when compared side by side under actual putting green conditions. The anticipated complaints from golfers putting across the center dividing lines on each green rarely occurred. Nearly all golfers were surprised to learn they had just played across 18 different overseeding combinations. No entry evaluated showed consistently high or low performance ratings across the 5 year period. The greatest similarity in putting quality among overseeding entries were observed for the perennial ryegrass blends and monostands. The characteristics of texture, uniformity, density, disease resistance, wear, fall transition and spring transition were similar for all perennial ryegrass blends and monostands evaluated. Color was slightly different among several perennial ryegrasses in which the cultivars Regal, Citation, Derby, and Caravelle showed a slightly darker green coloration; whereas, Loretta showed a lighter green color when compared to the other perennial ryegrasses.

Differences in overseeding performance that were noticed in addition to color were representative of overseeding mixtures including rough bluegrass *(Poa trivialis)*. These overseeding mixtures which included perennial ryegrass plus rough bluegrass were Marvelgreen + Sabre, Super Celebrity or Dixie Green + Sabre. Differences in these mixtures compared to blends or monostands of perennial ryegrass were most noticeable in the spring. The rough bluegrass mixtures generally showed higher shoot density, finer-leaf texture and greater smoothness compared to the other entries. Mixtures containing rough bluegrass, however, did not rank superior overall as based on a seasonal average. This was due, in part, to poor spring transition characteristics which resulted in prolonged persistence into the spring and inhibition of the bermudagrass spring green-up.

The differences in seasonal average scores were not found statistically different and therefore can not be attributed solely to the overseeded entries. Greens characteristics, including soil type, drainage, slope exposure, shade and/or other factors collectively resulted in more variation than could be overcome by an individual overseeding entry. This result points out the high variability in environmental and site conditions golf course superintendents manage turf and close similarity of the overseeding entries evaluated. This similarity in putting quality and performance ratings of the perennial ryegrass entries provides the consumers (golfer, golf course superintendents, golf professionals, etc.) with the option to direct additional attention to price and service when products perform equally. The overseeding mixtures including rough bluegrass showed improved characteristics of putting quality and performance which can be utilized by individual golf courses based on needs. Care should be taken, however, to manage and control the inherent growth characteristics of rough bluegrass for a smooth and controlled spring transition. **WTT**



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Rugby Kentucky Bluegrass answers these problems.

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Rugby is a new Kentucky bluegrass. But it's not unproven. Before it was ready to be introduced to you, years of extensive testing were performed under a broad range of climatic and soil conditions. Test sites were located not only in the United States, but Canada as well.

The results? Our testing has shown Rugby to be unique. It's a truly *different* variety from anything else on the market, with superior performance.

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Circle No. 159 on Reader Inquiry Card

LATE FLOWERING TREES PROVIDE MID-SUMMER COLOR, INTEREST

By Douglas J. Chapman, Horticulturist, Dow Gardens, Midland, MI

Trees which flower early to mid-summer can be particularly important in the landscape. These trees add not only color at a time when the landscape is otherwise green, but diversity as well. Four particularly exciting plants for mid-summer bloom include Yellowwood, Goldenraintree, Kousa Dogwood, and Goldenchain Tree.

American Yellowwood *(Cladrastis lutea)*, a native mid-summer flowering tree is particularly spectacular. This round-headed tree, at maturity, reaches 30 to 50 feet in height and width. While young, it is somewhat narrow and upright. V-crotches can be a problem, but prompt pruning will correct the problem. The bark is smooth and gray, resembling American Beech. The pinnate compound leaves make this plant particularly interesting. Each leaf has seven to eleven leaflets which are oval and smooth.

The new and summer foliage is a vibrant yellow-green. Fall color, which is quite dependable in Central Michigan, is a good yellow to brown. The white flowers are at their peak in Central Michigan during mid- to late June. These drooping flowers normally are in full bloom in the Boston and northern Ohio areas during late May or early June. The white flowers are held in drooping clusters or racemes, 8 to 16 inches in length. Fruit becomes brown and is quite effective with the shape mirroring the flower shape. This is an excellent specimen tree in groups or as single plants.

Yellowwood prefers fertile, well-drained soil, while being adapted to a wide range of pH's, from acid to alkaline. It should be planted in full sun or at least 80% sun. When planted in semi-shaded areas, *Botryosphaeria* Canker can become a severe problem.

Drooping clusters of white flowers grace American Yellowwood in late May or early June in northern states.

Goldenraintree *(Koelreutaria paniculata)* has a bipinnately compound leaf, about 14 inches long, with seven to fifteen leaflets. At maturity, this perfectly round, dense small tree, reaches 25 to 35 feet in height. The leaves are purple when unfolding early in the spring, becoming a dull green during the summer with dependable yellow to yellow-orange fall color. *Koelreutaria* flowers during mid-July with unique bright yellow flowers, 12 to 15 inches in length.

This plant competes extremely well in turf or in beds. It prefers well-drained to droughty soils and is quite adaptable to areas of high air pollutants, as well as salt and many urban problems. It is a particularly outstanding tree with few or no insect or disease problems.

The bright yellow flowers in mid-July are just one benefit of the relatively disease and insect free Goldenraintree.

Kousa Dogwood *(Cornus kousa)*, a native of China, should be looked upon as an exciting understory or specimen plant in full sun. It is more upright than Flowering Dogwood, usually reaching 25 to 30 feet in height. When young, it is somewhat upright-vase-shaped, becoming oval at maturity. It can be grown as a multiple-stem or single-stem tree. The bark is spectacular as the plant becomes older, exfoliating, being multicolored (pale yellow and brown).

Flowering in the most northerly area is dependable. In Central Michigan, it flowers from early through late June, sometimes into July after the leaves are out. Kousa Dogwood's flowering bracts are a pale to clear white. They are usually somewhat pointed and, again, extremely low temperature hardy, often to minus 30°F. Of the cultivars available, *Cornus kousa chinensis* 'Milky Way' is the most dynamic, with a somewhat more spreading habit of growth and the flowers being considerably more delicate with

extremely pointed bracts. *C. kousa* can be used as a small tree specimen or in mass planting. It seems to thrive in sunnier locations as contrasted to *C. florida*.

The fruit is effective late August through October, being ½ to 1 inch in diameter. This reddish, globular fruit somewhat resembles raspberries. Although seedy, they are quite tasty.

The summer foliage is a good clear green with fall color either not developing or developing extremely late in the season. When it does develop, the fall color is a dull maroon. Kousa Dogwood's main advantages over our native *C. florida* include extremely low temperature hardy flower buds, ease of transplanting, and flowering during early summer. Kousa Dogwood is an exciting addition to our summer landscape.

Goldenchain Tree (X *Laburnum watereri)* is 12 to 16 feet in height with a 9- to 10-foot spread. The foliage is a dull blue-green with little or no fall color. The trifoliate leaves are all elliptical in shape. Perfect yellow flowers come out during early or mid-June. They are borne in 7- to 10-inch pendulous racemes. This small tree is a good specimen in full sun or in protected areas, usually exposed to the north or northeast.

These trees with summer flowers are not only outstanding as specimens, but also integrate well into mass plantings. They all seem relatively drought tolerant, having few or no insect and disease problems.

Although their fall color varies, the uniqueness of early to mid-summer blooms makes these truly exciting additions to the landscape. Although borderline hardy in Central and Northern Michigan, they should be considered somewhat commonplace from Detroit all the way south to the Washington, DC area.

When looking for diversity with excitement, yet low maintenance, Yellowwood, Goldenraintree, Kousa Dogwood, and Goldenchain Tree should be high on the list. **WTT**

June flowers of the Goldenchain Tree add to the tree's effectiveness in mass plantings.

Circle No. 105 on Reader Inquiry Card

GYPSY MOTH INVASION RUNS ARBORIST RAGGED

by Gil Troy, editorial assistant

It's 4:30 a.m. The arborist wearily hops into his truck to start yet another day of non-stop spraying against the gypsy moth. He may work as late as 10 or 11 this night. Some of his fellow arborists start spraying college campuses, industrial parks and normally bustling city streets at that hour. Our hero works through the Memorial Day weekend. He works over the Fourth. Hopefully, he'll be able to take some time off soon. But it's not up to him—he's held captive by the whims of the dreaded gypsy moth.

This spring and early summer, throughout the Northeast and scattered parts of the rest of the country, arborists took up the herculean task of controlling the gypsy moth. By many accounts, this year's infestation was the worst ever. Experts estimate that between 10 and 15 million acres were defoliated this year, surpassing the record five million acres defoliated in 1980. The area from Maine through Wilmington, DE, extending as far west as Pennsylvania Dutch Country, was blanketed by the ravenous insects. Isolated infestations were reported in California, Oregon, Nebraska, Michigan, Ohio, Florida and Vancouver, British Columbia.

"I've been spraying since 1955, and this is the worst year I've ever seen," says Robert Mullane, president of Alpine Tree Care, Inc., in White Plains, NY, confirming most arborists' observations. Erik Haupt, president of Haupt Tree Company in southwestern Massachusetts, contends that this year "had the greatest variety in the stages and life cycle of the moth I've ever seen in 25 years. The gypsy moths started laying eggs in late April, early May, and they were still hatching the end of May into June. There were all stages of instar at the same time. This was more from lack of food rather than pronounced, staggered hatching."

Arborists Inundated

The intensity and the expanse of the infestation caused widespread public distress. Arborists were inundated with calls. "You couldn't reach any tree company," says Walt Dages, public relations manager of the F. A. Bartlett Tree Company in Stamford, CT. "A lot of people complained that our phone was off the hook." The firms weren't refusing to answer calls; they were constantly on the phone. Alpine Tree Company didn't take any orders after April 1. Other companies were also unable to satisfy all of the customers in need.

Carl Bosenberg, president of H.F. Bosenberg and Son Corporation in North Brunswick, NJ, didn't take over half the calls that came in. "It's very unfair to customers to say 'yes, we'll be there to spray,' when you know in your heart that you'll never be able to make it. It's like a guy with a doctor's appointment at two who sits around until four, and then is rushed through by the doctor who's in a hurry to get home."

Bosenberg is not willing to sacrifice the quality of his service in order to satisfy the increased demand. "We could have done a lot more if we had been willing to cut corners. We don't try to produce volume. Doing fewer jobs and doing them well is more important. Others' business more than doubled. They'd work until 10 and wake up at five. It's fine if you do it for a couple of days. But after a while, you become so bleary eyed you're just going through the motions."

Business Booms

Despite all the unanswered calls, business increased dramatically. Bosenberg's company had at least a 30-40 percent increase in spraying jobs over the previous year. Estimates by other arborists ranged from a 20 percent increase to 100 percent. Robert Mullane says that established companies would tend to have a less dramatic rise. "When you've been in business a long time you get a lot of regular customers. Ninety to ninety-five percent of our business is from return customers."

The increase experienced by both new and old firms strained supplies of chemicals, labor and equipment. Eric Haupt says that even though his company was braced for an increase in demand, they still ran out of spray on occasions. "When you're involved in a major increase of that type, no matter how carefully you plan it's difficult to set up.

"It was impossible to foresee," Haupt explains. "We ran through three, four, five times the amount of spray material expected. The gypsy moth respects no calendar, it respects no weather forecast. You're vulnerable to weather and to other factors. But you have to move quickly, a tree has leaves one day and is defoliated the next."

Walt Dages estimates that business at the Bartlett Company is "almost double. We could have done a lot more but we lacked equipment and trained manpower." Bartlett and other firms updated, reequipped, and purchased new machines.

Supply and Demand

The Agriculture Machine Division of FMC

Continues on page 32

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*Apply Roundup to fairway; reseed 7 days after application. While Roundup goes to work, golfers keep playing over treated turf. RUP-SP1-113D

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1050
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It had to be powerful enough to get him in and out of tough places. Yet small enough to maneuver easily in tight spots.

The tractor he chose was a John Deere 1050 Diesel with factory installed mechanical front-wheel drive (optional).

The power to run uphill.

The John Deere 1050 Compact Utility Tractor has a 33-PTO-hp liquid-cooled diesel engine. Which makes it real easy for Dougan to pull right out of tough places.

"We get in tight spots all the time," says Dougan. "The 1050 with mechanical front-wheel drive moves right out."

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**Maximum PTO hp at 2600 engine rpm for the 650 and 850, 2400 engine rpm for the 750, 950 and 1050. All ratings by official test except for the 650 and 750, which are factory-observed.*

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Corporation, Jonesboro, AR, is the largest manufacturer of sprayers in the United States. "We tried to foresee demand, but we still didn't have enough. We sold out earlier than we ever had," exclaimed Marion Meredith, advertising manager at FMC. "Our 600 and 1000 gallon sprayers ran out in early spring. We ran out of our smaller units in early summer." Although FMC hasn't started building new sprayers yet, dealers are already ordering sprayers for next spring.

Not all equipment companies were overwhelmed by the gypsy moth infestation. A spokesman for Broyhill Company in Dakota City, NB, says the gypsy moth infestation in the Northeast " hasn't changed a thing. The Mediterranean fruit flies had more of an impact on our sales."

Chemical companies that supply Sevin, methoxychlor and other weapons for use against the pest experienced sales increases, but did not run out of material. Roy Lockett, communications manager of Union Carbide Agricultural Products Division in Raleigh, NC, estimates that even though less than 10 percent of their sales of Sevin are used against the gypsy moth, the fight against the moth helped make 1981 "the best year we've had in sales for our program. The supply fluctuated, but we had anticipated heavy use because of the gypsy moth."

Miller Chemical and Fertilizer Corporation had also anticipated an increase in demand. Charlie Svec, executive vice president of the Hanover, PA firm, said the gypsy moth "very definitely had an impact" on the Sevin and methoxychlor his company sells. "A pretty substantial volume of product was sold. There might have been some delays in getting the product out, but we were consolidating two plants during the year. I wouldn't expect a recurrence of the minimal delays next year."

Arborist's Arsenal: Results

The arborist has a variety of weapons in his arsenal against the gypsy moth. Most agree that a well-timed, well-planned, integrated pest management program (IPM) is necessary. "The gypsy moth should be dealt with as part of an overall biological problem and not as if there is one solution to stamp them out in one fell swoop," says Charles Roth, chief educator and naturalist of the Massachusetts Audubon Society.

Nevertheless, different arborists rely on different weapons as their mainstay in the fight against the gypsy moth.

The most popular method still remains spraying, with arborists mentioning Sevin as the pesticide used most often. Bruce Walgren, Jr., director of operations for Walgren Tree Experts in West Hartford, CT, says that his firm uses a two spray approach. They spray early with Sevimol, a Sevin with an additional "sticky" substance to keep the chemical on the tree. They then do a second application of malathion and Sevin for good knockdown. "Sevin did a super job," says Walgren. "We achieved very good control. Approximately 97 percent of our customers were satisfied. There were not many complaints, especially for the volume of business we did." Robert Mullane of Alpine Tree Care prefers a combination of Sevin, malathion and methoxychlor. Others, like Carl Bosenberg, used Sevin by itself.

Sevin was neither universally used nor was it universally acclaimed. Eric Haupt uses methoxychlor "almost exclusively. It's very effective from a money standpoint and a control standpoint."

Okay to Spray?

Some ecologists object to the use of Sevin because it is "broad spectrum like so many of our pesticides," according to Dr. Dick Plunkett, a staff ecologist with the National Audubon Society in New York. "A broad spectrum pesticide affects the natural controls—parasites and predators. Whatever controls we destroy increases the intensity of the next outburst."

Plunkett points to the adverse effect of Sevin on honeybees as but one example. "Natural pollination is of great importance to fruit crops. The commercial beekeeper is warned to keep away for a week after Sevin is sprayed."

Others maintain that Sevin is less than beneficial to humans and animals in the area being sprayed. Sufficient doubts exist, they claim, but the pesticide still remains on the list of accepted chemicals.

Roy Lockett of Union Carbide is unconvinced. The Environmental Protection Agency just completed a four year investigation of Sevin. "They went through all our files, and through information from outside laboratories," Lockett explains. "They found that Sevin poses no threat to humans or animals—they gave it a clean bill of health."

Few people on either side insist on taking their case to its extreme. Plunkett says the Audubon Society approves of the United States Department of Agriculture's program which advocates an IPM scheme to combat the gypsy moth. Plunkett also says that he would not object to the "use of chemical insecticides for extreme conditions. What I do object to is aerial spraying near people."

Many arborists who are confident that Sevin and other pesticides are not harmful to humans, are still wary of spraying wantonly. Carl Bosenberg "firmly believes that the fewer chemicals we have in use, the better off we are in the long run. If we could control the gypsy moths without chemicals we would be very happy. It's not that Sevin is harmful, but we would do any-

Continues on page 34

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thing to avoid spraying into the atmosphere. We like to soft pedal the use of chemicals."

Eric Haupt agrees. "We view spraying as a necessary evil. We won't take advantage of the concern of the public to scare them into additional spraying. We won't sign them up for 30 years. There's too much indiscriminate use of pesticides."

Charles Roth was particularly disturbed about indiscriminate spraying in reaction to the gypsy moth attack. "There's an awful lot of garbage being sprayed around. People are spraying chlorox, kerosene, anything, into the atmosphere."

The attitude of the general public toward spraying was, as usual, mixed. Bosenberg found that this year "people were so glad to see us, it was fun to spray. Last year we had lots of hassles; this year anybody who could spray was accepted. People's trees were being chewed up, they were willing to accept anything. If your neighbor's tree is chewed up you feel sorry; if yours is chewed up you get excited."

Walt Dages of Bartlett Tree Expert Company says that when the company's helicopter landed for a break or to check an address "people started running up to the helicopter and asking to be sprayed."

Attitudes toward spraying seem to be determined by how desperate the individual is for relief. Tom Wolf, a forester with the New York State Department of Environmental Conservation, discovered that in New York City. The DEC was going to spray 800 acres in the Bronx and Staten Island with Dylox. In Staten Island, where homeowners were suffering, a public protest was made and the environmentalists were "hooted down." In the Bronx, the outbreak was localized in Van Cortland Park. DEC officials were besieged with protests and petitions from community groups, assemblymen and state senators. The city was forced to drop the program.

Wolf discovered that you can't please everybody. "Before the gypsy moths start chewing, people yell 'don't spray, you'll poison children and dogs.' After they start chewing, people yell, 'how come they didn't do anything?' "

Alternatives: Bt and NPV

Given the widespread discomfort with spraying, other alternatives were examined. Many people advocate *Bacillus thuringiensis (Bt)*, a spore-forming bacteria, as a safer, but equally effective, alternative. Charles Roth recommends *Bt*. "There's less of a biological impact, it's better in the long run" and knocks out the gypsy moth, according to Roth.

Last year, Alpine Tree Care used a considerable amount of *Bt*. "This year, says Robert Mullane, "we used it on a limited scale. We got terrible results. The gypsy moth lays eggs over a six week period, from May 1 to June 20. It takes *Bt* a week to become effective. It works for the next week, but it couldn't control them the next month."

Roth grants that *Bt* "is more expensive and needs to be applied at proper times." However, its major advantage, "that it is only effective with caterpillars of the lepidoptera family," outweighs its additional cost and inconvenience.

Another highly touted alternative that only affects the gypsy moth is a gypsy moth virus, nucleopolyhedrosis (NPV), trade named Gypchek. It is also known as "wilt disease" because when killed by the disease, the gypsy moth hangs in an inverted "v." The advantages of the virus, which occurs naturally in high gypsy moth populations, is that it is specific to gypsy moth larvae and has "no effect whatever on anything else in the environment," according to Tom Wolf.

The disadvantage of the virus, Wolf notes, is that two applications, between five and ten days apart during the early instars, are required in order to be effective. Also, it takes one to two weeks to start killing the moth. Once the disease starts, if it has been properly applied, Wolf says you can expect a 75 percent mortality rate.

"Wilt disease" has been synthetically reproduced, but it is not yet commercially available. One of the reasons is that the virus is specific to the gypsy moth. The episodic nature of the gypsy moth makes the synthetic virus a less than profitable investment.

Stuart Aimsworth of Abbot Laboratories in North Chicago says that NPV is a "dead issue. Its control is as good as *Bt*, rarely if ever better than *Bt*. *Bt* has certain advantages over the gypsy moth virus and has some safety profits as well."

Injections and Pheromones

For one who does not wish to use biological agents or resort to spraying, injections are also possible. Injections of Bidrin, made at the base of the tree, become effective within 24 hours and sometimes as early as six hours, according to Dr. Arthur Costonis, president of Systemics Inc., in Massachusetts. Injections to the root flare send the poison throughout the tree. Only insects which eat the leaves are affected. "The poison stays six times as long as a spray—30 days conservatively, and up to 60 days. A minimal amount is used, only target trees are treated, it's non-blowing and the concentration found in gypsy moth larvae is almost non-detectable. If you compare it cost-wise, biologically-wise, efficacy-wise, as far as I'm concerned there are no disadvantages," says Costonis.

Costonis injected the street trees in Babylon, Long Island. "We did 30-40 trees at a time," says Costonis. Costonis estimates that it takes approximately 20 minutes, from the time you leave the truck until you pick up the last capsule, to inject

Continues on page 104

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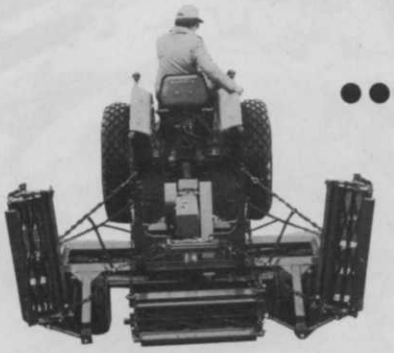

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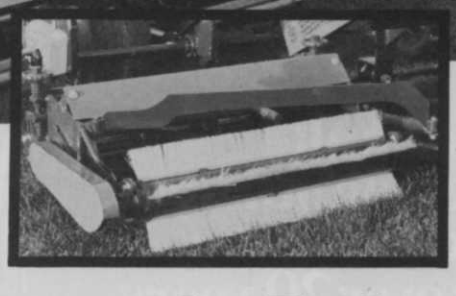

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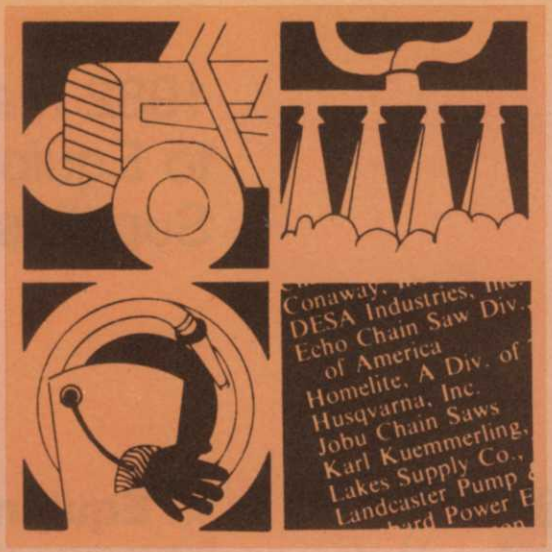

Manager's Guide to Equipment Chemicals, Supplies and Distributors.

WEEDS TREES & TURF

1982 Manager's Guide to Equipment, Chemicals, Supplies and Distributors

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Circle No. 103 on Reader Inquiry Card

AMERICA'S HANDIEST UNDERGROUND TOOL

Complete family of Multi-Purpose anchors in bulk and colorful packages.

A.B.CHANCE COMPANY
210 N. Allen St., Centralia, MO 65240
Telephone (314) 682-5521
Subsidiary of Emerson Electric Co.

03-71

Circle No. 111 on Reader Inquiry Card

Hahn SPRAY-PRO

Compact Self-Propelled Sprayer
High Flotation Protects Turf.
Optional Spreader, Utility Bed, Hand Spray

For golf greens, grounds, lawn care and Ag uses. Fast, precision spraying of herbicides, insecticides, and liquid fertilizer.

Compact size for maneuverability, yet it has 160 gal. polytank with patented Hahn jet agitation. 15-ft. 3-section folding boom for 16½ ft. coverage. Use all 3 sections or individually.

Centrifugal pump: 100 PSI max., 55 gpm max. Optional Hand Gun for trees, shrubs or brush control.

16 h.p. Kohler cast iron engine. Three-speed transmission. Hydraulic brakes. Automotive type steering.

HAND GUN and 25 ft. hose permits spraying trees and shrubs on the move. Optional.

BIG HIGH FLOTATION TIRES
Reduce compaction. Drive on golf greens safely. About half the PSI of other utility trucks and sprayers.

4-WHEEL STABILITY
Low center of gravity. For more stability and safety.

FAST, WIDE COVERAGE

STEEL UTILITY BED Optional.
Converts sprayer to Utility Truck. Complete with sides and drop tailgate.

CONVERTS TO PRECISION SPREADER
Pendulum action spreader for more accurate pattern than any other method. Spreads 1000 lbs. of sand for top dressing over a 3000 sq. ft. area in two minutes — 12 ft. swath. Also spreads fertilizer, seed, or lime — 20 to 45 ft. swath. Powered by auxiliary drive from vehicle engine. Capacity — 1000 lbs. of sand or 700 lbs. of fertilizer.

DEALERSHIPS AVAILABLE IN SOME AREAS. TELEPHONE (812) 428-2025

Hahn AG/TURF DIVISION 1625 N. Garvin St., Evansville, Indiana 47711
33 years of building self-propelled sprayers

Circle No. 124 on Reader Inquiry Card

Equipment
continued

BlueBird International Inc
J I Case Drott Div
Dountz Equipment Co
Master Craft Industrial Equip Corp
★ Opdyke's Sales
Pitman
Rokor Inc

Cultivators

Allis-Chalmers
Ariens Co
Beaird-Poulan/Weed Eater
Brillion Iron Works
Engineering Products Co
Howard Rotovator Co
★ Kubota Tractor Corp
Lambert Corp
★ Massey-Ferguson
★ MTD Products Inc
Rhino Products
Towt Industries International
Tradewinds Inc
Union Fork & Hoe Co
USA Lift Inc
Wheel Horse Products
White Farm Equipment
Wilcox All-Pro Tools & Supply

Dethatchers

BlueBird International Inc
EZ Rake Inc
Fuerst Brothers Inc
★ Hahn Inc
Howard Rotovator Co
★ Jacobsen Div Textron Inc
★ F D Kees Mfg Co
Lambert Corp
Nunes Mfg
Olathe Mfg Inc
Parker Sweeper Co
★ Ryan Turf/OMC Lincoln
Thatch-Away Mfg Co
USA Lift Inc
★ Vemco Corp of America
Yard Vac Inc

Dozers

Aztec Development Co
Bomford
Caterpillar Tractor Co
★ Excel Industries Inc
International Harvester Const Equip Grp
USA Lift Inc
Yanmar Tractor (USA) Inc

Drainage Tubing

★ Advanced Drainage Systems Inc
★ Cambridge Soil Services of America
Francesville Drain Tile Corp
Hancor Inc
Presto Products Inc

Dredgers

Aztec Development Co

Drills

Fairmont Hydraulics
Halls Safety Equip Co
Milwaukee Electric Tool Corp
Tanaka Kogyo (USA) Ltd

Dusters

B & G Equipment Co
Buffalo Turbine Agric Equip Co
Echo Inc
HMC/The Green Machine
★ Solo Inc
Tanaka Kogyo (USA) Ltd
Universal-Gerwin Div Leigh Prod Inc
USA Lift Inc
★ Vandermolen Corp

Edgers

Allegretti & Co
Ariens Co
Beaird-Poulan/Weed Eater
Ben Meadows Co
★ Bunton Co
★ Deere & Co
Echo Inc
★ Excel Industries Inc
★ Goodall Div Bunton Co
HMC/The Green Machine
★ Hoffco Inc
★ MTD Products Inc
Ransomes Inc
Turfco Mfg Inc
Union Fork & Hoe Co
USA Lift Inc

Engines

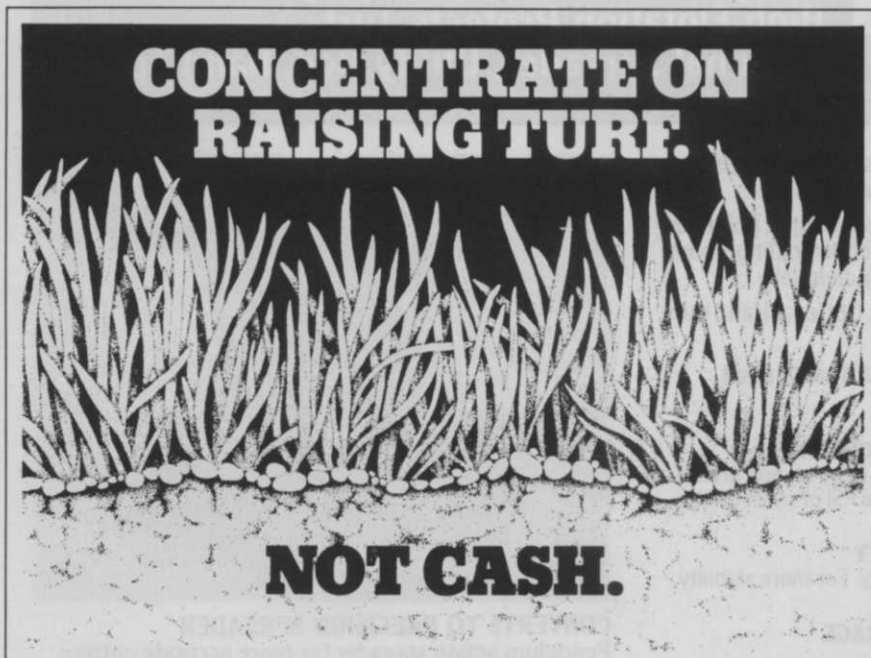
Allis-Chalmers
American Honda Motor Co
Briggs & Stratton Corp
Clinton Engines Corp
★ Kawasaki Motors Corp Engine Div
Kohler Co
★ Kubota Tractor Corp
Strong Ent Inc
Suzuki
★ Tecumseh Products Co Engine Div
Teledyne Wisconsin Motor
Yanmar Tractor (USA) Inc

Engine Parts

Clinton Engines Corp
★ Power Lawnmower Parts Inc

Erosion Control Fabric

★ American Enka Co
Erosion Control Systems/Gulf States Paper Corp
Geo W Hill & Co
★ International Reforestation Suppliers
Presto Products Inc
Turfibre Products
★ Vaughan's Seed Co
Jim Walls Co



You need a lot of equipment for effective turf management. And we lease it all. Mowers, spreaders, sprayers, tractors and aerators, just to name a few.

Quite simply, we specialize in leasing this equipment so you can keep your credit open for other operating expenses and conserve your capital.

Leasing. It's the smart way to grow, and a real hedge against inflation. Find out more by calling us at 800-547-4905. The call's on us.

Industrial Leasing Corporation

Executive Offices • 2300 S.W. Sixth Avenue • Portland, Oregon 97201 • (503) 228-2111
Offices located in principal U.S. cities

Circle No. 128 on Reader Inquiry Card

Equipment

Fault Finders

Progressive Electronics
Radar Engineers

Fertilizer Injectors

Acme Burgess
Agro Chem Inc
★ Aquatrols Corp of America
Aquaturf
Barnant Corp
Chemilizer Products Inc
★ Creative Sales Inc
★ Ross Daniels Inc
Dragon Irrigation Equipment by Wes-Co
Ecodyne Mec-O-Matic Co
Fert-O-Ject
Hydroflo Corp
Inject-O-Meter Mfg Co
Jaeco Pump Co
John Blue Co
Merit Industries Inc
Raindrip Inc
Smith Precision Products
Strong Ent Inc
Hermann A Wirth
Young Industries

Foggers

Acme Burgess
Agrotec Inc
Al's Machine Shop
Buffalo Turbine Agric Equip Co
★ FMC Corp Agricultural Mach Div
Root-Lowell Corp
Thompson Mfg Co
Wyco International

Forklifts

★ Brouwer Turf Equip Ltd
Roscoe Brown Corp
★ Bush Hog Div Allied Prods Corp
Caterpillar Tractor Co
Clark Equipment Co Melroe Div
★ Deere & Co
Dynamic Ind Inc
Edwards Equipment Co
Guest Industries Inc
K-D Mfg Co
★ Massey-Ferguson
Master Craft Industrial Equip Corp
★ Morbark Industries Inc
★ Princeton Mfg Co
★ Spyder Sales Inc

Generators

Allis-Chalmers
Aztec Development Co
Caterpillar Tractor Co
Clinton Engines Corp
Ford Tractor Operations
Homelite Div Textron Inc
Kohler Co
Milwaukee Electric Tool Corp
★ MTD Products Inc
★ Solo Inc
Tanaka Kogyo (USA) Ltd
Wheel Horse Products

Golf Cars

Club Car Inc
Davis 500/Marco Inc
Eagle Vehicles Inc
Electric Carrier Corp
Elmco Inc
Go-Fore
Harley-Davidson
Melex USA Inc
Nordco Electric Vehicles
★ Polaris E-Z Go Textron
Taylor-Dunn Mfg Co
Yamaha Motor Corp

Golf Course Accessories

Coursigns, Inc
Fore-Par Inc
Par Aide Products
Richway Industries
★ A G Stafford
Standard Golf Co

Grass Pavers

Grass Pavers Ltd
Presto Products Inc
Turfgrass Products

Greenhouses

Beck Mfg Co
Lord & Burnham
National Greenhouse Co
Sunglo Solar Greenhouses
Turner Equipment Co
Vaughan's Div Vaughan-Jacklin Corp
★ Vaughan's Seed Co

Greenhouse Covers

★ International Reforestation Suppliers
Poly-America Inc
Turner Equipment Co
★ Vaughan's Seed Co

Hose & Reels

Agrotec Inc
American Water Broom Co
Dountz Equipment Co
Erocon Pacific Corp
★ Finn Corp
★ Flexitube International Corp
★ FMC Corp Agricultural Mach Div
Friend Mfg Corp
General Irrigation Co
★ Clifford B Hannay & Son Inc
Hanson Equipment Co
Geo W Hill & Co
Marco Div LLO-MAR Mfg Co
Master Sprayers Inc
Melnor Industries
Power Spray Technology Inc
Reinco Inc
Strong Ent Inc
Swan Hose Div Amerace Corp
★ Torco Equipment Co

Insect Killers, Electrical

Buffalo Turbine Agric Equip Co
★ Deere & Co
Detjen Corp Insectocutor Div
Insect-O-Cutor Inc
★ Vandermolen Corp
Wyco International

Irrigation, Drip

Al's Machine Shop
Aquatic Irrigation Systems Inc
Chapin Watermatics Inc
Dayni Controls Mfg Co
General Irrigation Co
Holly Filter
Jaeco Pump Co
Patrician Products Inc
Raindrip Inc
Submatic Irrigation Systems
Vaughan's Div Vaughan-Jacklin Corp
★ Vaughan's Seed Co
Weater-Tec-Skinner

Irrigation, Injection

Agro Chem Inc
Aquaturf
Dragon Irrigation Equipment by Wes-Co
Ecodyne Mec-O-Matic Co
Fert-O-Ject
General Irrigation Co
Hydroflo Corp
Inject-O-Meter Mfg Co
Jaeco Pump Co
Vaughan's Div Vaughan-Jacklin Corp
Weater-Tec-Skinner
Hermann A Wirth

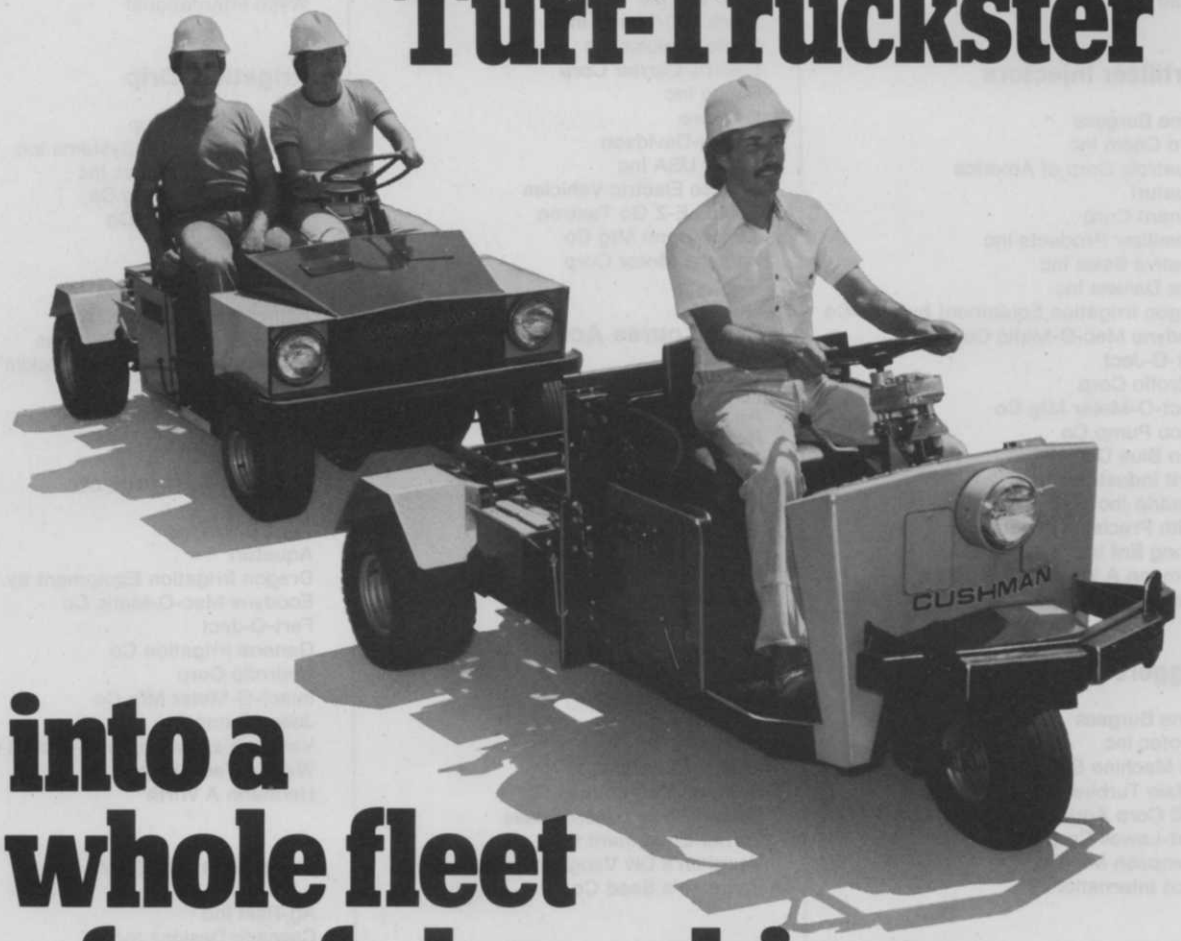
Irrigation, Mobile

Ag-Rain Inc
Cascade Designs Inc
★ Finn Corp
General Irrigation Co
★ Otterbine-Barebo Inc
Travelrain Power Sprinkler
Weater-Tec-Skinner

Irrigation Systems & Supplies

Ag-Rain Inc
Al's Machine Shop
★ AMETEK/Plymouth Prods Div
Aquaturf
Champion Brass Mfg Co
★ Champion Sprinkler Co
Cla-Val Co
Dayni Controls Mfg Co
Dema Engineering Co
★ Ditch Witch Div Charles Machine Works
Dragon Irrigation Equipment by Wes-Co
General Irrigation Co
Grass Pavers Ltd
Hinds International Inc
Holly Filter
Hydroflo Corp
Hydro Terra Corp
Jaeco Pump Co
King Brothers Industries
★ Claude Laval Corp
★ Long Mfg NC Inc

It's a snap to turn a Cushman Turf-Truckster



into a whole fleet of useful machines.

On its own, the Turf-Truckster® is an impressive way to move people, tools and equipment quickly and economically. And, as the workhorse of the Cushman® Turf-Care System, it's without equal.

Both the 3- and 4-wheel Turf-Truckster vehicles are powered by a rugged, air-cooled 18-hp OMC engine. And recent improvements help this year's Turf-Truckster deliver a 1,500 pound payload capacity.

Cushman's pin-disconnect system makes equipment attachment a snap.

What's more, in a matter of minutes, the Cushman pin-disconnect system and wide range of optional attachments can turn the Turf-Truckster into any of the specialty machines on the next page. All interchangeable. All engineered specifically for the turf-care professional.

No bolts. No hitching. No more jerryrigged trial-and-error attachments. Imagine how much time that convenience, and these accessories, could save you in the year ahead.

GREENSAVER® AERATOR

The Greensaver aerates greens, tees and other turf areas up to 10 times faster than walk-type units. Select 1/2″ or 3/8″ coring tines (both coring drums will collect cores as you aerate) or slicing tines to match your turf.

TOP DRESSER

Compared to self-powered or walk-type top dressers, this unit quickly pays for itself in saved manhours. A rubber fabric moving bed and rotating brush are matched to the vehicle's ground speed governor for an evenly spread 31 1/2″ swath. The clutch control, to engage spreader, can be operated from the driver's seat. And the hopper holds up to 1,000 pounds of material.

SPRAYER

With optional 15′ boom and handgun, this attachment is ideal for spraying greens, trees, bushes or roughs quickly and accurately. Powered by the Turf-Truckster vehicle's optional PTO, and equipped with ground speed governor, calibration is easy and thorough. The 100-gallon tank means fewer refilling stops.

POWER CONVERTER

The Cushman Power Converter is an inexpensive way to turn your Turf-Truckster into a mobile power plant for electric tools, floodlights . . . anything with a universal motor that draws up to 12 amperes at 120 volts DC. So instead of bringing small repair jobs back to the shop, your crew can handle them in the field.

SHORT BOX & FLATBED BOX

Your Turf-Truckster becomes a flatbed hauler with just two pull pins in place. Bolt on the optional side panels and tailgate to the flatbed, and you have a 1,500 pound capacity* box that can be dumped manually or hydraulically.

SPREADER/SEEDER

Mounted on the optional Short Box or Flatbed/Box, its cyclone action broadcasts as much as 300 pounds of seed, fertilizer or other material over a 40′ wide area. The Spreader/Seeder is powered by the Turf-Truckster vehicle's optional PTO with extension shaft. And the controls are operated from the driver's seat.

QUICK AERATOR

With its 46″ swath, this attachment earns its name by finishing big aerating jobs fast. By hydraulically lifting it into transport position from the driver's seat,** you can move quickly from job to job, too. Choose from three tine styles, slicing, coring (2 sizes) and open spoon.

To find out more about how the Cushman Turf-Care System can make your work force more productive, ask your Cushman Turf Dealer for an on-turf demonstration soon. For the name of your nearest dealer, call Cushman Information at 402-435-7208.

*Rating for vehicle equipped with 9.50-8 rear tires.

**Optional hydraulic system and dump set required.

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CUSHMAN®

The Labor-Saving Turf System

1030 Cushman, P.O. Box 82409, Lincoln, NE 68501, 402-435-7208

Circle No. 113 on Reader Inquiry Card

Equipment

continued

Lumenite Electronic Co
Microdot/Wittek
★L R Nelson Corp
Progressive Electronics
★Rain Bird Sprinkler Mfg Corp
Raindrip Inc
Rain Jet Corp
Rain-O-Mat Sprinklers Inc
Richdel Inc
Royal Coach/Buckner
★Safe-T-Lawn Inc
Submatic Irrigation Systems
Thompson Mfg Co
★Toro Co Irrigation Div
Weater-Tec-Skinner
★Weather-matic

Landscape Design Kits

American Stamp Co

Lighting Systems

Columbia Cascade/Timberform
GTE Sylvania
Intermatic Inc
McGraw-Edison Lighting Prods Div
Musco Sports-Lighting Inc
Richway Ind Ltd
Spring City Electric Mfg Co
Westinghouse Electric Corp Lamp Div

Litter Receptacles

BigToys
Clean City Squares Inc
Columbia Cascade/Timberform
Friend Mfg Corp
Kay Park Rec Corp
Mexico Forge/Kilgore Corp
Plastic Omnium Inc
Standard Golf Co

Loaders

Allis-Chalmers
★Atwater Strong Div
★Bush Hog Div Allied Prods Corp
★J I Case Light Equip Div
Caterpillar Tractor Co
Clark Equipment Co Melroe Div
Dynamic Ind Inc
Engineering Products Co
Ford Tractor Operations
Hinds International Inc
International Harvester Const Equip Grp
★Kubota Tractor Corp
★Long Mfg NC Inc
★Massey-Ferguson
Sperry New Holland
Steiner Corp
Tiger Corp
USA Lift Inc
★Vermeer Mfg Co
White Farm Equipment
Yanmar Tractor (USA) Inc

Log Splitters

Beaird-Poulan/Weed Eater
Ben Meadows Co
Bock Industries Inc
Caretree Systems Inc
Custom Products of Litchfield Inc
★Deere & Co
Didier Mfg
Engineering Products Co
Ford Tractor Operations
Giant Vac Mfg Inc
Gilson Brothers Co
Halls Safety Equip Co
Hanson Equipment Co
★Kubota Tractor Corp
La Font Corp
Lindig Mfg Corp
★Morbark Industries Inc
★MTD Products Inc
Speedex Tractor Co
USA Lift Inc
★Vaughan's Seed Co
★Vermeer Mfg Co
W-W Grinder Inc

Markers, Field

Ben Meadows Co
B & G Equipment Co
Laurie Carlson & Assoc Ltd
Fox Valley Marking Systems
Patrician Products Inc
Richway Ind Ltd

DO YOU WANT TO SELL MORE LIVING PLANTS?

Every alert businessman looks for ways to increase sales. You're no exception.

You may have sold everything you could get your hands on this year — but there are all sorts of pressures now (and more on the way) that may force people to think about reducing the dollars they spend on our living plants and related products and services.

All of us in the business of growing living plants and all of us in the business of selling them have to get together in a united effort to sell more with greater profitability.

All of us need the Nursery Marketing Council.

As wholesale growers or suppliers, we all must show a voluntary NMC contribution on our invoices amounting to ¼th of 1% of the gross sale. As retailers, we must pay that fractional voluntary assessment — then the growers or suppliers match the contribution and send the combined total to NMC.

Need more information?
Write us or phone.

Nursery Marketing Council
230 Southern Building
Washington, D.C. 20005
(202) 737-4060

Circle No. 148 on Reader Inquiry Card

Equipment

Measuring Wheels

Agro Chem Inc
Ben Meadows Co
Gandy Co
Rolatape Corp
★ Safety Test & Equipment Co

Mist Blowers

Acme Burgess
Agrotec Inc
Ben Meadows Co
Buffalo Turbine Agric Equip Co
Echo Inc
★ FMC Corp Agricultural Mach Div
Friend Mfg Corp
Hanson Equipment Co
HMC/The Green Machine
★ Solo Inc
★ Stihl Inc
Strong Ent Inc
USA Lift Inc
★ Vandermolen Corp
★ Vaughan's Seed Co
Wyco International

Mowers, Flail

Bomford
Brillion Iron Works
Roscoe Brown Corp
Edwards Equipment Co
★ Excel Industries Inc
★ FMC Corp Agricultural Mach Div
Ford Tractor Operations
Haban Mfg Co
★ Kubota Tractor Corp
★ Mathews Co
MoTrim Inc
★ Mott Corp
Ransomes Inc
Tiger Corp
Turner International (Eng) Ltd
USA Lift Inc
★ Vemco Corp of America
★ Woods Div Hesston Corp

Mowers, Reel

★ Brouwer Turf Equip Ltd
★ Hahn Inc
★ Jacobsen Div Textron Inc
★ Kin-co
Locke Mfg Inc
★ MTD Products Inc
★ National Mower Co
Ransomes Inc
Roseman Mower Corp
★ Toro Co
USA Lift Inc
Yazoo Mowers

Mowers, Rotary

American Honda Motor Co
Ariens Co
Atlas Tool & Mfg Co
Auburn Consolidated Ind Inc
★ Bunton Co
Clinton Engines Corp
★ Cushman Turf/OMC Lincoln
★ Deere & Co
Edwards Equipment Co
Engineering Products Co
★ Excel Industries Inc
★ FMC Corp Agricultural Mach Div
Ford Tractor Operations
Giant Vac Mfg Inc
Gilson Brothers Co
★ Goodall Div Bunton Co
★ Grasshopper Co
Haban Mfg Co
★ Heckendorn Mfg Co
★ Jacobsen Div Textron Inc
★ F D Kees Mfg Co
★ Kin-co
★ Kubota Tractor Corp
★ Kut-Kwick Corp
Lawn-Boy Product Group
★ Long Mfg NC Inc
★ Massey-Ferguson
MoTrim Inc
★ MTD Products Inc
Nunes Mfg
★ Howard Price Turf Equip
Ransomes Inc
Rhino Products
★ Ryan Turf/OMC Lincoln
Sarlo Power Mowers Inc
Sensation Corp
Simplicity Mfg Co
Smithco
Snapper Products/McDonough Power Equip.
Speedex Tractor Co
Sperry New Holland
Steiner Corp
Terrain King Corp
Tiger Corp
★ Toro Co
Tradewinds Inc
USA Lift Inc
Wheel Horse Products
★ Woods Div Hesston Corp
Yanmar Tractor (USA) Inc

Mowers, Sickle Bar

Allis-Chalmers
Engineering Products Co
Ford Tractor Operations
Gilson Brothers Co
Haban Mfg Co
★ Kin-co
MoTrim Inc
Simplicity Mfg Co
★ Solo Inc
Sperry New Holland
USA Lift Inc
D J Wilson Co

Mower Parts

Lawn-Boy Product Group
Locke Mfg Inc
★ Power Lawnmower Parts Inc

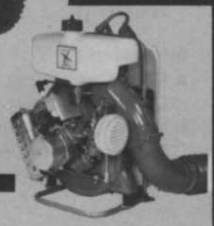
Mulchers, Hydraulic

★ Bowie Industries Inc
Erocon Pacific Corp

VANDERMOLEN
windmill
highest quality Environmental Control Equipment . . . for better living

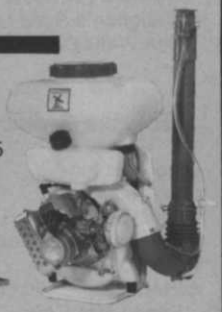
WHEELED BLOWER
the 2 cycle power blower that weighs only 36 lbs yet packs a 225 MPH wallop!

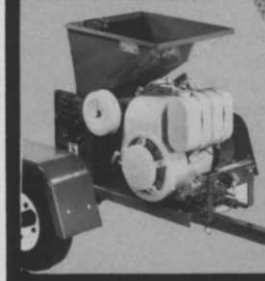
BACK PACK BLOWER
a portable airblast that cleans up fast everywhere.



NO DRIFT HERBICIDE APPLICATOR
roller flattens weeds to deposit chemicals over greater leaf surface for better, quicker kill. No spray, no drift!

BACK PACK MISTBLOWER
gives fast, even coverage. Sprays 25 ft. up. 3 gal. tankful covers 1 acre in 15 min.





BRUSH CHIPPER
chips up to 3" diam. wood with drum type rotor. 11 to 16 HP models.

SPREADER
broadcasts sand, salt, seed and all fertilizers to 60 ft. swath. Holds 7 to 20 cu. ft.

☐ Blowers ☐ Mistblower ☐ Spreader
☐ Herbicide Applicator ☐ Brush Chipper
Write for information or check boxes and mail ad to:

VANDERMOLEN CORP.
119 Dorsa Ave. - Livingston, N.J. 07039

Circle No. 171 on Reader Inquiry Card

Equipment

continued

★ Finn Corp
Reinco Inc

Net Layers

Nunes Mfg
Robark

Netting

★ Conwed Corp
★ Ross Daniels Inc
Delmarva Textile Co
★ International Reforestation Suppliers
Turfgrass Products
Turfibre Products

Netting, Erosion Control

★ American Enka Co
★ Conwed Corp
Delmarva Textile Co
Geo W Hill & Co
★ International Reforestation Suppliers
Turfgrass Products
Turfibre Products
★ Vaughan's Seed Co
Jim Walls Co

Nozzles & Accessories

Agrotec Inc
Broyhill Co
Delavan Corp
Erocon Pacific Corp
★ Finn Corp
★ FMC Corp Agricultural Mach Div
Friend Mfg Corp
General Irrigation Co
Hanson Equipment Co
H D Hudson Mfg Co
★ Hypro Div Lear Siegler Inc
Liqui*Lawn Corp
Marco Div LLO-MAR Mfg Co
Master Sprayers Inc
Melnor Industries
Power Spray Technology Inc
Rain Jet Corp
Royal Coach/Buckner
★ Safe-T-Lawn Inc
★ Safety Test & Equipment Co
Sorensen Sprayers Inc
★ Spraying Systems Co
Strong Ent Inc
Tri-Con Inc

Patio & Walkway Materials

Coopers Creek Chemical Corp
Grass Pavers Ltd
Patrician Products Inc
Presto Products Inc

Picnic Tables

American Playground Device Co
BigToys
Columbia Cascade/Timberform
Gerber Mfg Inc
Kay Park Rec Corp
Mexico Forge/Kilgore Corp
Playworld Systems
Trojan Playground Equip Mfg Co

Pipe

★ Advanced Drainage Systems Inc
Hinds International Inc
★ Long Mfg NC Inc
★ McDowell Mfg Co
Raindrip Inc
Submatic Irrigation Systems

Planters

Columbia Cascade/Timberform
Deep Root Corp
Ellis Mfg Co
General Irrigation Co
★ International Reforestation Suppliers
Lambert Corp
Landscape Forms Inc
Mexico Forge/Kilgore Corp
Parker Greenhouses Int'l
Planter Technology-Natural Spring
★ Vaughan's Seed Co

Play Structures

American Playground Device Co
BigToys
Columbia Cascade/Timberform
Delmer F Harris Co
Playworld Systems
Trojan Playground Equip Mfg Co

Pools, Decorative

Fiberglass Unlimited Inc
HEMCO Corp
Rain Jet Corp

Plows, Sand Trap

★ Dedoes Industries Inc

Post Drivers

Rhino Sales Corp
Shaver Mfg Co

Post Hole Diggers

Allis-Chalmers
Ben Meadows Co
★ Bush Hog Div Allied Prods Corp
Clark Equipment Co Melroe Div
Dynamic Ind Inc
Fairmont Hydraulics
★ Feldmann Engineering & Mfg Co
Ford Tractor Operations
★ Ground Hog Inc
HMC/The Green Machine
★ Hoffco Inc
★ International Reforestation Suppliers
★ Kubota Tractor Corp
★ Massey-Ferguson
McMillen Div States Engineering Corp
Rhino Sales Corp
Don Savage Co
Seymour Mfg Co
Shaver Mfg Co
★ Stihl Inc
Tanaka Kogyo (USA) Ltd
Tradewinds Inc
USA Lift Inc

Pressure Washers

Agrotec Inc
Allis-Chalmers
Broyhill Co
★ Deere & Co
★ FMC Corp Agricultural Mach Div
Ford Tractor Operations
Friend Mfg Corp
Hanson Equipment Co
Hotsy Corp
H D Hudson Mfg Co
Marco Div LLO-MAR Mfg Co
★ Massey-Ferguson
Minnesota Wanner Co
Northeast Industries Inc
E E Rockey & Co
Sioux Steam Cleaner Corp
Strong Ent Inc

Pruners

American Standard Co
Bartlett Mfg Co
Ben Meadows Co
Corona Clipper & Forge Co
Echo Inc
Fairmont Hydraulics
Florian Pruners
Friend Mfg Corp
HMC/The Green Machine
★ Hoffco Inc
Limb-Lopper Div/Robinson Ind
New Draulics Inc
Seymour Smith & Son Inc
★ Torco Equipment Co
Union Fork & Hoe Co
D J Wilson Co
Hermann A Wirth

Pumps

Agro Chem Inc
Agrotec Inc
American Honda Motor Co
Aquaturf
Randolph Austin Co
Aztec Development Co
Barnant Corp
Broyhill Co
Clinton Engines Corp
Delavan Corp
Ecodyne Mec-O-Matic Co
★ FMC Corp Agricultural Mach Div
Ford Tractor Operations
Friend Mfg Corp
General Irrigation Co
Gorman-Rupp Ind
Hanson Equipment Co
HMC/The Green Machine
Homelite Div Textron Inc
Hotsy Corp

Equipment

★ Hypro Div Lear Siegler Inc
Jaeco Pump Co
John Blue Co
Little Giant Pump Co
Master Sprayers Inc
Minnesota Wanner Co
★ Otterbine-Barebo Inc
Parco Div Blue Mountain Prod Inc
Peerless Pump
Power Spray Technology Inc
★ Stanley Hydraulic Tools
Strong Ent Inc
Tanaka Kogyo (USA) Ltd
Westheffer Co Turf Div

Rakes, Landscape

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★ Glenmac Inc
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Bomford
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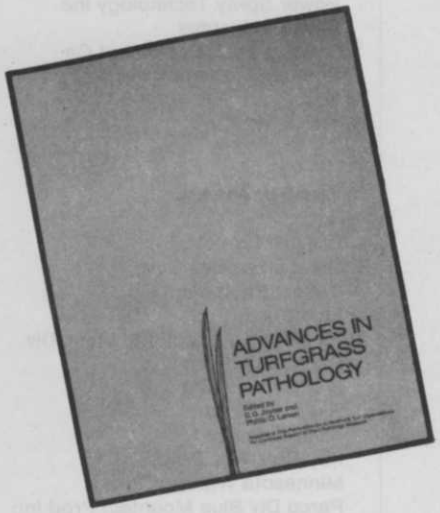

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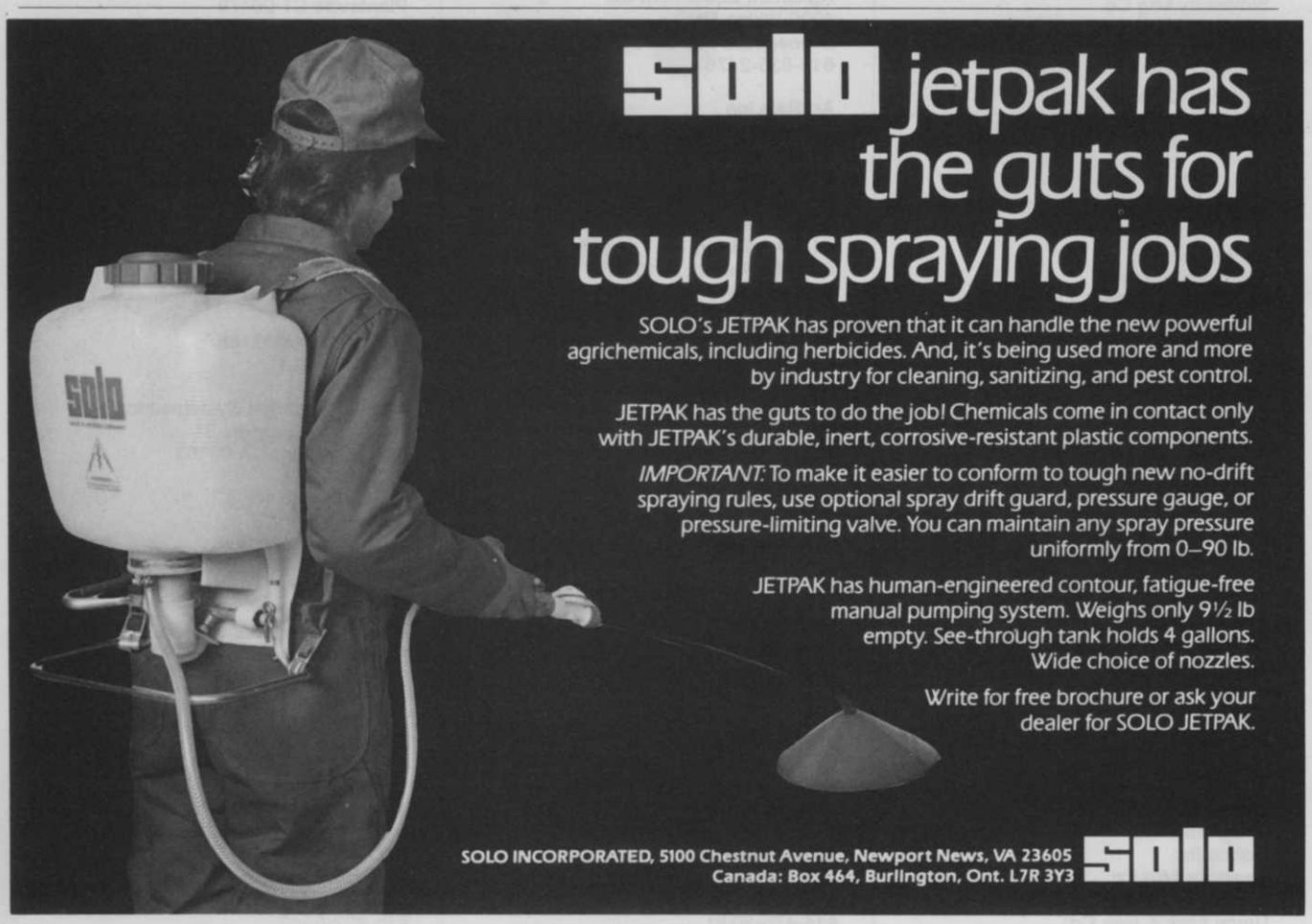

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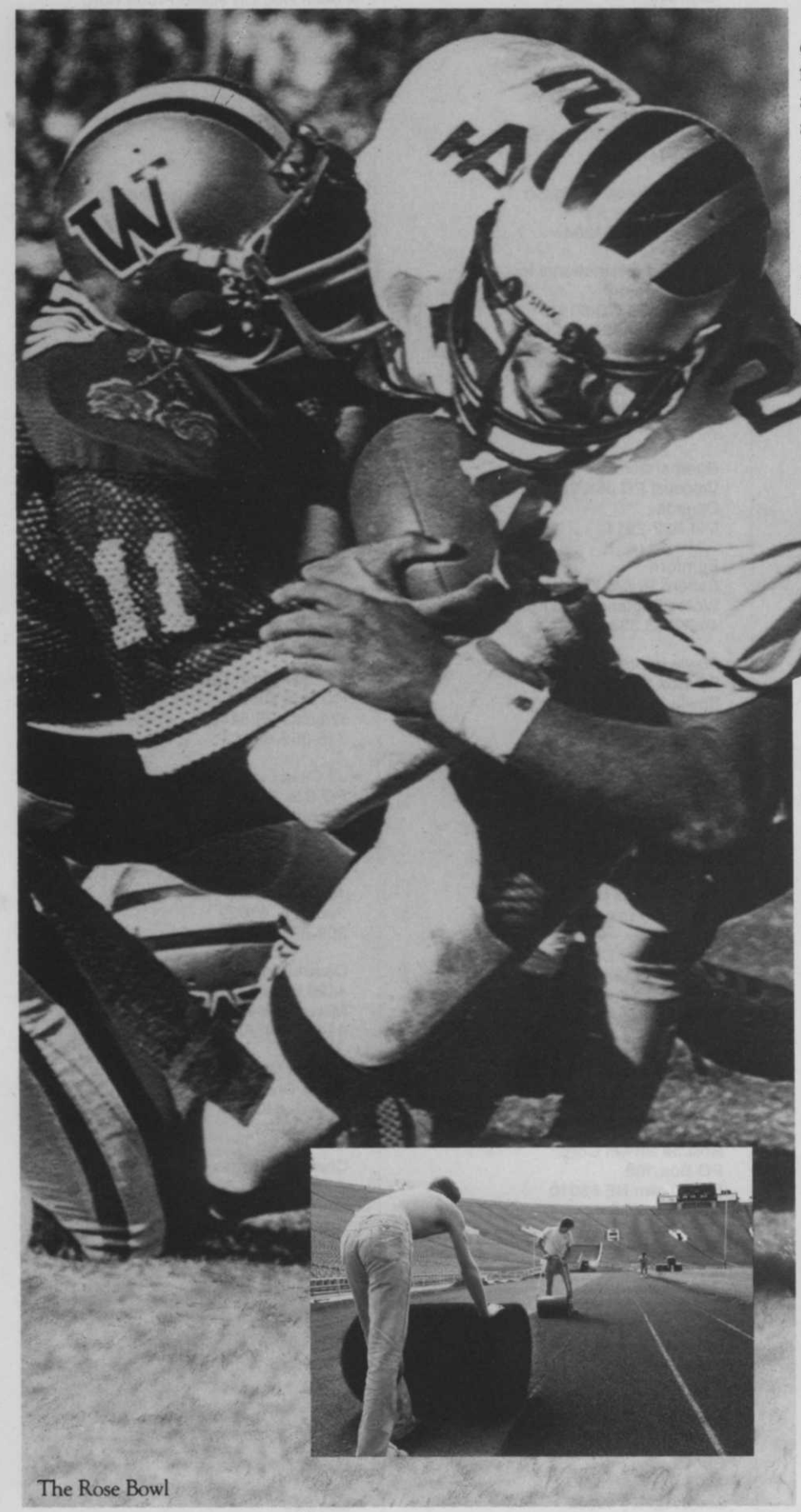

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216-947-2344

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312-381-7050

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614-861-7775

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Madison WI 53701
608-849-4770

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401-274-2875

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Racine WI 53404

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Wausau WI 54401
715-359-6511

★J I Case Light Equip Div
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Wichita KS 67277
316-945-0111

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Peoria IL 61629
309-675-1000

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Milwaukee WI 53208
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1406 N Naud St
Los Angeles CA 90012
213-221-2108

Champion Sprinkler Co
1460 N Naud St
Los Angeles CA 90012
213-221-2108

★A B Chance Co
210 N Allen
Centralia MO 65240
314-682-8509

Chapin Watermatics Inc
Box 298
Watertown NY 13601

The City That Works Works With Woods

There's a lot of grass to mow in the Windy City, and Chicago's Park District uses rugged Woods mowers to help them cover a lot of ground.

But Woods mowers aren't designed just for large areas. In fact, we make mowers that cut swaths from 3 1/2 feet all the way up to 20 feet. Plus, we offer more rearmount and undermount models than any other manufacturer of tractor-powered mowers. New tractors or old, domestic or imported, Woods has a mower to fit the tractor and the job.

Send for complete specifications on the dependable line of Woods mowers today.

for 34 years the name to remember for quality and performance

WOODS

Division of Hesston Corporation
Oregon, Illinois 61061

Circle No. 178 on Reader Inquiry Card

Equipment Companies

continued

Chemilizer Products Inc
12745 49th St N
Clearwater FL 33520
813-576-7211

★ Chevrolet Motor Div
30007 Van Dyke Ave
Warren MI 48090
313-492-5573

Chipmore Mfg Co
Six Johnson Ct
Bay City MI 48706
517-894-4578

Clark Equipment Co Melroe Div
112 N University Dr
Fargo ND 58102
701-293-3220

Cla-Val Co
PO Box 1325
Newport Beach CA 92626
714-548-2201

Clean City Squares Inc
PO Box 6797
St Louis MO 63144
800-325-3048

Clean-Flo Laboratories Inc
4342 Shady Oak Road
Hopkins MN 55343
800-328-6656, 612-935-2137

Clegg Nursery Equipment
Box 252
Plainfield IL 60544
815-436-2357

Clements Associates Inc
RR 1 Box 162A
Newton IA 50208
515-792-8285

Clinton Engines Corp
Clark & Maple Sts
Maquoketa IA 52060
319-652-2411

Club Car Inc
PO Box 4658
Augusta GA 30907

Columbia Cascade/Timberform
1975 SW Fifth Ave
Portland OR 97201
503-223-1157

★ Continental Custom Bridge Co
Rt 5 Box 178
Alexandria MN 56308
612-852-7500

★ Conwed Corp
444 Cedar St
PO Box 43237
St Paul MN 55164
612-221-1100

Coopers Creek Chemical Corp
River Rd
West Conshohocken PA 19428
215-828-0375

Corona Clipper & Forge Co
14200 E Sixth St
Corona CA 91720
714-737-6515

★ Correct Mfg Corp
London Road Extension
Delaware OH 43015
614-363-1951

Coursigns
Box 403
Lake Forest, IL 60045
312-295-5350

★ Howard S Crane Inc
PO Box 88
Oneida NY 13421
315-363-3390

★ Creative Sales Inc
222 N Park Ave
Fremont NE 68025
402-727-4800

★ Cushman Turf/OMC Lincoln
PO Box 82409
Lincoln NE 68501
402-435-7208

Custom Products of Litchfield Inc
PO Box 718
Litchfield MN 55355
612-693-3221

Cyclone Seeder Co
PO Box 1649
Harrisburg PA 17105
717-234-6291

★ Ross Daniels Inc
1720 Fuller Road
West Des Moines IA 50265
515-225-6471

Davis 500/Marco Inc
Pelham Rd
PO Box 1847
Greenville SC 29615

Dayni Controls Mfg Co
18414 Eddy St
Northridge CA 91325
213-349-8367

★ Dedoes Industries Inc
PO Box 575
Walled Lake MI 48088
313-624-7710

Deep Root Corp
7354 Bolsa Ave
Westminster CA 92683
714-898-0563/0564

★ Deere & Co
John Deere Rd
Moline IL 61265
309-752-4792

Delavan Corp
811 Fourth St
West Des Moines IA 50265
515-274-1561

Delmarva Textile Co
254 N Rehoboth Blvd
Milford DE 19963
302-422-7531

Dema Engineering Co
10020 Big Bend Blvd
St Louis MO 63122
314-966-3533

Detjen Corp Insectocutor Div
154 Laguna Court
St Augustine FL 32084
904-797-3513

Didier Mfg
8630 Industrial Dr
Franksville WI 53126
414-886-0525

★ Ditch Witch Div Charles Machine Works
PO Box 66
Perry OK 73077
800-654-6481

Dountz Equipment Co
1437 E Fifth Ave
Columbus OH 43219

Dragon Irrigation Equipment by Wes-Co
910 23rd Ave
Oakland CA 94606
415-534-3320

Dynamic Industries Inc
201 W Main Ave
PO Box 466
Barnesville MN 56514
800-346-4858

Eagle Vehicles Inc
8181 Hoyle Ave
Dallas TX 75227

Echo Inc
3150 MacArthur Blvd
Northbrook IL 60062
312-291-2800

Ecodyne Mec-O-Matic Co
1890 Woodlane Dr
PO Box 43390
St Paul MN 55164
612-739-5330

Edmont-Div Becton Dickinson & Co
1300 Walnut St
Coshocton OH 43812
614-622-4311

Edwards Equipment Co
4312 Main St
Yakima WA 98903
509-248-1770

Electric Carrier Corp
8603 Crownhill Ste 8
San Antonio TX 78209

Ellis Mfg Co
107 W Railroad St
PO Box 246
Verona WI 53593
608-845-6472

Elmco Inc
PO Box 176
Cooksville IL 61730

★ Encap Prods
PO Box 278
Mt Prospect IL 60056

★ Engineering Products Co
2021 MacArthur Rd
Waukesha WI 53186
414-547-5557

EXCEL HUSTLER

Total maneuverability and year-round performance cut operating costs.

An EXCEL HUSTLER is a machine for all seasons. It is designed for year-round use, making it the investment that pays off in lower operating costs, superior performance and time savings.

EXCEL'S exclusive, dual-hydrostatic system powers both drive wheels independently. Twin levers, one actuating each drive wheel, control forward, reverse, ground speed, turning and braking action.

Compare this total maneuverability with the competition to see how operating costs can be reduced...A HUSTLER has **no** hard-to-turn steering wheels, **no** foot pedals, **never** a loss of steering control and **low** daily maintenance requirements (only 2 tractor grease fittings). Less operator effort is spent maneuvering around obstacles **and** on daily servicing, so productivity increases.

Attachments include the new 72" 3-way offset mower deck that mulches, discharges side or rear, a 60" flail mower, 72" heavy-duty deck, edger, 54" snow thrower, 60" V-blade, 60" dozer blade, 60" rotary broom, utility scoop, ROPS, cab and more. Call toll free 1-800-835-3260, or write for information.

The EXCEL HUSTLER Production Crew...Models 275 (20 or 23 hp), 295 (25 hp) and 305 D (27.5 hp diesel).

The choice of the Pros.

EXCEL HUSTLER
Turf & Grounds Equipment

GPW-3-1280

EXCEL INDUSTRIES, INC. • BOX 727 • HESSTON, KANSAS 67062 • (316) 327-4911 • (800) 835-3260

Circle No. 121 on Reader Inquiry Card

Equipment Companies

continued

Environmental Design Press
PO Box 2187
Reston VA 22090
703-471-1267

Ernst Crownvetch Farms
RD 5 Box 806
Meadville PA 16335
814-425-7276

Erocon Pacific Corp
1019 Pacific Ave Ste 816
Tacoma WA 98402
206-272-3874

Erosion Control Systems/Gulf States Paper Corp
PO Box 3199
Tuscaloosa AL 35404
205-553-6200

ESB Inc (See Exide Corp)

Eversman Mfg Co
PO Box 4345
Denver CO 80204
303-572-1140

★ Excel Industries Inc
PO Box 727
Hesston KS 67062
316-327-4911

Exide Corp
101 Gibraltar Rd
Horsham PA 19044
215-674-9500

E-Z-Go Textron
PO Box 388 (13)
Augusta GA 30913
404-798-4311

EZ Rake Inc
1001 S Ransdell Rd
Lebanon IN 46052
317-482-1662

Fairmont Hydraulics Div Fairmont Railway Motors-Harsco Corp
415 N Main
Fairmont MN 56031
507-235-3361

★ Feldmann Engineering & Mfg Co
633 Monroe
Sheboygan Falls WI 53085
414-467-6167

Fert-O-Ject
4701 Old San Jose Rd
Santa Cruz CA 95065
408-475-5122
Mail To: PO Box 889
Soquel CA 95073

Fiberglass Unlimited Inc
Box 1297
Watertown SD 57201
605-886-5137

★ Finn Corp
2525 Duck Creek Rd
Cincinnati OH 45208
513-871-2529

★ Flexitube International Corp
PO Box 292
Willow Grove PA 19090
215-674-8036

Florian Pruners
797 Mott Hill Rd
South Glastonbury CT 06073

FMC Bolens Corp
215 S Park St
Port Washington WI 53074

★ FMC Corp Agricultural Mach Div
5601 E Highland
Jonesboro AR 72401
501-935-1970

★ Foley Mfg Co
3300 Fifth St NE
Minneapolis MN 55418
800-328-7140

Ford Tractor Operations
2500 E Maple Rd
Troy MI 48084
313-643-2000

Fore-Par Inc
16571 Gemini Ln
Huntington Beach CA 92647
714-842-8494

Fox Valley Marking Systems
172 S Northwest Hwy
Cary IL 60013
312-639-5744

Francesville Drain Tile Corp
PO Box 368
Francesville IN 47946
219-567-9133

Friend Mfg Corp
4441 Prospect St
Gasport NY 14067
716-772-2622

Fuerst Brothers Inc
PO Box 271
Rhinebeck NY 12572
914-876-3575

Gandy Co
528 Gandrud Rd
Owatonna MN 55060
507-451-5430

General Irrigation Co
PO Box 776
Carthage MO 64836
417-358-8171

Gerber Mfg Inc
PO Box 163
Middleton WI 53562
608-271-2777

Giant Vac Mfg Inc
Machine Shop Road
South Windham CT 06266
203-423-7741

Gilson Brothers Co
Box 152
Plymouth WI 53073
414-893-1011

★ Glenmac Inc
1805 Second Ave SW
Box 1398
Jamestown ND 58401
800-437-9779

Go-Fore
8228 Goldie St
Walled Lake MI 48088

★ Goodall Div Bunton Co
PO Box 33247
Louisville KY 40232
502-459-3810

Gould
10 Gould Center
Rolling Meadows IL 60008
312-640-4000

Gorman-Rupp Ind
180 Hines Ave
Bellville OH 44813
419-886-3001

Granberg Industries
200 S Garrand Blvd
Richmond CA 94801

★ Grasshopper Co
PO Box 637
Moundridge KS 67107
316-345-6301

Grasslyn Inc
641 Pine Grove Rd
State College PA 16801
814-238-0133

Grass Pavers Ltd
3807 Crooks
Royal Oak MI 48073
313-549-4046

Gravely Div McGraw-Edison Co
One Gravely Lane
Clemmons NC 27012
919-766-4721

★ Green Thumb Lawn Service
2450 Old Welsh Rd
Willow Grove PA 19090
215-657-2700

★ Ground Hog Inc
PO Box 290
San Bernardino CA 92402
714-888-2818

GTE Sylvania
100 Endicott St
Danvers MA 01923
617-777-1900

Guest Industries Inc
3601 Winsted Rd
Torrington CT 06790
800-243-5390

Haban Mfg Co
2100 Nothwestern Ave
Racine WI 53404
414-637-8388

Hach Co
PO Box 389
Loveland CO 80537
303-669-3050

NOW YOU CAN CHANGE FROM FORWARD TO REVERSE WITHOUT TOUCHING THE GEARSHIFT.

It's not as impossible as it sounds. Not with the help of a manual shuttle shift.

Which is exactly what our two new tractors feature.

It means you can move from forward to an equivalent reverse gear by simply disengaging the clutch, stopping the tractor, and then pulling the shuttle lever down. That's it.

Up there on the left is the L235, ideal for all grounds maintenance chores.

While hard at work down on the farm is the L275.

Both tractors have water-cooled diesel engines.

The L235 gives you 23.5 hp,* while the L275 with live rear PTO produces 27.5 hp.*

And both tractors have standard features that include rear wet disc brakes, a 3-point Category I hitch and a 7.4 gallon fuel tank.

Whether you have 2- or 4-wheel drive, power steering is up to you.

Any of the dealers in our nationwide sales and service network will certainly help you decide.

So why not visit one of them?

Or for more information, write to us at Kubota Tractor Corporation, Communications Department, P.O. Box 7020, Compton, California 90224.

With new products like the L235 and the L275, you'll agree we're a company that's going forwards.

©1981 Kubota Tractor Corporation

*Gross engine hp manufacturer's estimate.

KUBOTA

We're looking for work.

Circle No. 135 on Reader Inquiry Card

Equipment Companies

continued

★Hahn Inc
1625 N Garvin
Evansville IN 47711
812-428-2024

Halls Safety Equip Inc
Box 230
Grove City PA 16127
412-458-7202

Hancor Inc
401 Olive St
Findlay OH 45840
419-422-6521

Handy Mandy Mfg Co
319 S Seventh
PO Box 269
Perry OK 73077
405-336-5222

★Clifford B Hannay & Son Inc
422 Maple St
Westerlo NY 12193
518-797-3791

Hanson Equipment Co
301 Charles St
South Beloit IL 61080
815-389-2261

Harley-Davidson
PO Box 653
Milwaukee WI 53201

Delmer F Harris Co
517 Broadway
Box 278
Concordia KS 66901
913-243-3321

HC Hellige Inc
877 Stewart Ave
Garden City NY 11530

★Heckendorn Mfg Co
Box 88
Cedar Point KS 66843
316-274-4201

Hefty Tractor Co
Cross & Industrial Sts
PO Box 188
Juneau WI 53039
414-386-2401

HEMCO Corp
111 N Powell Road
Independence MO 64051
816-796-2900

Henderson Mfg Co
1085 S Third
Manchester IA 52057
319-927-2828

★Herd Seeder Co
3600 E US 35 SE
Logansport IN 46950
219-753-6311

Highway Equipment Co
616 D Ave NW
Cedar Rapids IA 52405
319-363-8281

Geo W Hill & Co
8010 Dixie Hwy
Florence KY 41042
606-371-8423

Hill's Liqui-Systems
Victoria TX 77901

Hinds International Inc
700 NE Multnomah Ste 1450
Portland OR 97232
503-234-7411

HMC/The Green Machine
20710 S Alameda
Long Beach CA 90810
213-603-9888

Hockney Co
913 Cogswell
Silver Lake WI 53170
414-889-4581

★Hoffco Inc
358 NW F St
Richmond IN 47374

Holly Filter
31820 Via Ararat
Bonsall CA 92003
714-728-7095

Holsclaw Brothers
1325 E Virginia St
Evansville IN 47711
812-423-7721

Homelite Div Textron Inc
14401 Carowinds Blvd
Charlotte NC 28217
704-588-3200

★Hopkins Agricultural Chemical Co
PO Box 7532
Madison WI 53707
608-222-0624

Hotsy Corp
21 Inverness Way E
Englewood CO 80112
800-525-9837

Howard Rotavator Co
343 S Division St
Harvard IL 60033
815-943-6424

H D Hudson Mfg Co
500 N Michigan Ave
Chicago IL 60611
312-644-2830

Husqvarna Div Tecfor Inc
224 Thorndale Ave
Bensenville IL 60106
312-595-8500

Hustler Corp
PO Box 1283
Jonesboro AR 72401

Hydroflo Corp
Easton Rd Rt 611 N
Plumsteadville PA 18949
215-249-9090

Hydro Terra Corp
800 N Park Ave
Pomona CA 91768
714-623-3211

★Hypro Div Lear Siegler Inc
375 Fifth Ave NW
New Brighton MN 55112
612-633-9300

★Industrial Leasing
2300 SW Sixth Ave
Portland OR 97201
503-228-2111

Inject-O-Meter Mfg Co
820 Thornton
Clovis NM 88101
505-763-4461

Insect-O-Cutor Inc
1531 Stone Ridge Drive
Stone Mountain GA 30083
404-939-2835

Intermatic Inc
Intermatic Plaza
Spring Grove IL 60081
815-675-2321

International Harvester Construction Equip Group
600 Woodfield
Schaumburg IL 60196
312-884-3000

★International Reforestation Suppliers
2100 W Broadway
PO Box 5547
Eugene OR 97405
503-345-0597

Irrometer Co
PO Box 2424
Riverside CA 92516
714-689-1701

Jackson Mfg Co
PO Box 1649
Harrisburg PA 17105
717-234-6291

★Jacobsen Div Textron Inc
1721 Packard Ave
Racine WI 53403
414-637-6711

Jaeco Pump Co
539 Ford St
West Conshohocken PA 19428
215-825-1540

John Blue Co
2800 Bob Wallace Ave
Huntsville AL 35805
205-536-5581

★Kawasaki Motors Corp Engine Div
650 Valley Park Dr
Shakopee MN 55379
612-445-6060

Kay Park Rec Corp
Hwy 218 SWT
Janesville IA 50647
319-987-2313
800-553-2476

K-D Mfg Co
3120 Gholson Rd
PO Box 4547
Waco TX 76705
817-799-0232

Equipment Companies

continued

★F D Kees Mfg Co
700 Park
Beatrice NE 68310
402-223-2391

Kel Instruments Co
PO Box 1869
Clifton NJ 07015
201-471-3954

Kembro
Box 305
Mequon WI 53092
414-242-2630

Kenyon Mfg Inc
1145 W Barkley Ave
Orange CA 92667
714-634-3422

Kershaw Mfg Co
Box 9328
Montgomery AL 36108

★Kin-co
170 N Pascal
St Paul MN 55104
612-644-4666

King Brothers Industries
27114 Henry Mayo Drive
Valencia CA 91355
805-257-3262

Kohler Co
Kohler WI 53044
414-457-4441

Koppers Co
1900 Koppers Bldg
Pittsburgh PA 15219
412-227-2000

★Kubota Tractor Corp
550 W Artesia Blvd
Compton CA 90220
213-537-2531

★Kut-Kwick Corp
1927 Newcastle St
Brunswick GA 31520
912-265-1630

La Font Corp
1319 Town St
Prentice WI 54556
715-428-2881

Lambert Corp
519 Hunter Ave
Dayton OH 45404
513-223-7295

La Motte Chemical Producs Co
Rt 213 North
Chestertown MD 21620
301-778-3100

Landscape Forms Inc
431 Lawndale
Kalamazoo MI 49001
616-381-0396

Landscape Structures Inc
300 Dawn Heather Dr
Delano MN 55328
612-972-3391

★Claude Laval Corp
1911 N Helm
Fresno CA 93727
209-255-1601

Lawn-Boy Product Group
McClure St
Galesburg IL 61401
309-343-0141

Lawnmaker Mfg Co
Six Johnson Ct
Bay City MI 48706

Leisure Lawn Inc
765 Liberty Lane
Dayton OH 45449

Lifetime Products
Rt 78 South
Kewanee IL 61443
309-853-3387

Limb-Lopper Div/Robinson Ind
11845 Burke St
Santa Fe Springs CA 90670
213-945-1077

Lindig Mfg Corp
1875 W Cty Rd C
St Paul MN 55113
612-633-3072

Ryegrass

Now Has An Added Dimension

Emergence of the highly successful, exceptionally handsome turf-type ryegrasses lends further credence to the historic claim that "ryegrass is the world's most widely used grass."

For years annual and perennial ryegrass have found a home where there is need for a fast-germinating grass which quickly forms a strong root system and forms a durable, inexpensive, easy-to-maintain turf.

Now added to the product line are the finer-bladed turf-type ryegrasses which rival the best of the fescues, bentgrasses and bluegrasses for turf quality.

They not only mix well with these varieties, the ryegrasses germinate in a matter of 7-10 days, mow beautifully and never need pampering.

That's why ryegrass — now more than ever before — is called "the versatile grass."

Ryegrass is truly the all-round performer.

Oregon Ryegrass Commission, Salem, Oregon
Circle No. 149 on Reader Inquiry Card

DURSBAN KEEPS RUNNING STRONG. HELPS KEEP BUGS FROM COMING BACK BEFORE YOU DO.

Long-lasting DURSBAN* brand insecticide is good insurance for your customer list. It can last up to 8 weeks—not just 3 or 4.

If the insects get back to your customer before you do, it's goodbye good customer.

That's why you'll want the insecticide that gives long-lasting protection to your business reputation! DURSBAN brand insecticide.

Whether you use the 2E or the double-strength 4E concentrations, you get longer residual control than with any other leading turf insecticide. And best of all, DURSBAN insecticides even cost less to use than many others.

So for sod webworms, chinch bugs, billbugs, ants, grubs—you name it—why not use the insecticides that keep running strong. And long. Get DURSBAN brand insecticides.

Just be sure to read and follow all label directions and precautions. Agricultural Products Department, Midland, Michigan 48640.

DOW CHEMICAL U.S.A.

*Trademark of The Dow Chemical Company
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DOW

Circle No. 118 on Reader Inquiry Card.

Equipment Companies

continued

Little Giant Products Inc
1600 NE Adams
Peoria IL 61601
309-673-9091

Little Giant Pump Co
3810 N Tulsa St
Oklahoma City OK 73112
405-947-2511

Locke Mfg Inc
One Bluston Ave Industrial Pk
PO Box 980
Bridgeport CT 06607
203-333-3157

★ Long Mfg NC Inc
1907 N Main St
Tarboro NC 27886
919-823-4151

Lord & Burnham
Irvington NY 10533

Lumenite Electronic Co
2331 N 17 Ave
Franklin Park IL 60131
312-455-1450

★ Magline Inc
503 S Mercer St
Pinconning MI 48650

Marco Div LLO-MAR Mfg Co
210 South Main
Newkirk OK 74647
405-362-3162/3124

Maruyama Corp of America
2361 Vineyard
PO Box 669
Escondido CA 92025
714-745-0669

★ Massey-Ferguson
1901 Bell Ave
Des Moines IA 50315

Master Craft Industrial Equip Corp
PO Box 106
Tifton GA 31794
912-386-0610

★ Master Mfg Co
119 Main St
PO Box 694
Sioux City IA 51102
712-258-0108

Master Sprayers Inc
10756 Vernon Ave
Ontario CA 91761
714-627-7466

★ Mathews Co
500 Industrial Ave
Crystal Lake IL 60014
815-459-2210

McDonough Power Equip (See Snapper Products)

★ McDowell Mfg Co
Dubois PA 15801
814-371-6550

McGraw-Edison Co Lighting Prods Div
7601 Durand Ave
Racine WI 53405
414-554-8001

McMillen Div States Engr Corp
4419 Ardmore Ave
Ft Wayne IN 46809
800-348-0964
219-747-6195

Mechanical Transplanter Co
1150 S Central Ave
Box 1008B
Holland MI 49423
616-396-8738

★ Medallion
525 15th Ave S
Hopkins MN 55343
612-938-6906

Melex USA Inc
1200 Front St Ste 101
Raleigh NC 27609

Melnor Industries
One Carol Place
Moonachie NJ 07074
201-641-5000

The Professional's Choice

Mow smoothly and pick up clippings in one pass! The rugged, versatile Lawn Genie thatches lawns, verti-cuts greens, tees and fairways, sweeps leaves and mows through tall weeds. Hopper empties easily from tractor seat. Change to thatching knives or replace blades in seconds with M-C's patented spring-loaded hangers! There is a tough Lawn Genie model sized for any job in your choice of engine-driven or PTO, lift-type or pull-type and cutting widths of 36", 48", 60" and 72". It's the three season pick-up mower that thatches, mows and sweeps.

72" PTO Model

Change blades to thatching knives, or combination of both styles, in seconds.

Mathews Company

P.O. Box 70, Crystal Lake, IL 60014 / 815-459-2210

Circle No. 140 on Reader Inquiry Card

There's reason for
HOPE.

Give to:
PROJECT HOPE

Department A, Washington, D.C. 20007

Put a WHIRLWIND FORCE to work to SWEEP UP LEAVES, LITTER, etc!

TAKE-ALONG 'BIG JOB' LOADER

HAUL THIS 16 horsepower Mi-T-VAC on any truck (or trailer we make) and clean up wet or dry problems. Fills dump truck with leaves in 25 minutes!

Lo-Blo, the Air-B-Room®

HEAVY DUTY BLOWER-SWEEPER helps a small crew gather more leaves, trash, clippings in less time. For details on today's 5 to 45 horsepower models, call Area 216 **947-2344.**

ATWATER STRONG DIVISION OF GOUGLER INDUSTRIES, INC.
BOX 68 · ATWATER, OHIO 44201
LAWN EQUIPMENT SINCE 1949

MODEL BK

Circle No. 104 on Reader Inquiry Card

THE GT-7. ITS CARRYING CAPACITY IS NO EMPTY CLAIM.

It has two seats and two headlights instead of one. It's easier to service, has undentable fenders and a diamond steel rear bumper.

You can buy it with a full line-up of accessories for aerating, seeding and spreading, top dressing or spraying.

One more thing. It sells for about the same price as the leading competitor. We don't mean to unload on them, but we just had to say some of these things before you went ahead and bought their machine before trying our GT-7.

For a demonstration on your course, just call your E-Z-GO Branch Office or Distributor. They're in the Yellow Pages. Or call us at (612) 542-0516.

E-Z-GO
TEXTRON

Polaris E-Z-Go Division of Textron Inc.
1225 No. Cty. Rd. 18, Mpls., MN 55427

Circle No. 154 on Reader Inquiry Card

Equipment Companies

continued

Menardi-Southern Corp
3908 Colgate
Houston TX 77087
713-643-6513

Meredith Seed Miser
Howe ID 83244
208-767-3411

Merit Industries Inc
PO Box 8075
Cranston RI 02920
401-942-6505

Mexico Forge/Kilgore Corp
Rt 322 W
PO Box 565
Reedsville PA 17084
717-667-2157

Microdot/Wittek
2530 Braga Drive
Broadview IL 60525
312-343-9820

Micron Corp
PO Box 19698
Houston TX 77024
713-932-1405

Milwaukee Electric Tool Corp
13135 W Lisbon Rd
Brookfield WI 53005
414-781-3600

Minnesota Wanner Co
5145 Eden Ave S
Minneapolis MN 55436
612-929-1070

★ Mitts & Merrill Inc
109 McCoskry St
Saginaw MI 48601

★ Mobile Aerial Towers Inc
2314 Bowser Ave
Fort Wayne IN 46859

★ Morbark Industries Inc
PO Box 1000
Winn MI 48896
517-866-2381

MoTrim Inc
240 Steubenville Ave
Cambridge OH 43725
614-439-2725

★ Mott Corp
500 Shawmut Ave
PO Box 518
LaGrange IL 60525
312-354-7220

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Box 36900
Cleveland OH 44136
216-225-2600

★ Mud Cat National Car Rental
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St Louis Park MN 55416
612-893-6400
800-328-7333

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319-263-2281

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Pana IL 62557

National Hydro-Ax Inc
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★ National Mower Co
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St Paul MN 55114
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★ L R Nelson Corp
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Peoria IL 61614
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★ Nevr-Rust Tool-Tainer Inc
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800-351-1363
In TX 915-643-2518

New & Unusual Products Co
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405-341-7234

New Draulics Inc
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Salt Lake City UT 84119
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Nordco Electric Vehicles
26701 Redlands Blvd
Redlands CA 92373

Northeast Ind Inc
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Midland Park NJ 07432
201-652-6202

Norton Co Safety Products Div
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Cranston RI 02920
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Modesto CA 95352
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Occidental Chemical Co
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Houston TX 77001

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Chicago IL 60611
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Olathe Mfg Inc
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Industrial Airport KS 66031
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★ Opdyke's Sales
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Colmar PA 18915
215-822-8300

Orbex Inc
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Minneapolis MN 55404
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★ Otterbine-Barebo Inc
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215-965-6018

Par Aide Products
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St Paul MN 55104

Parco Div Blue Mountain Prod Inc
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315-797-3215

Parker Greenhouses Int'l
1325 Terrill Rd
Scotch Plains NJ 07076

Parker Sweeper Co
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Springfield OH 45501
513-323-4901

Patrician Products Inc
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Westbury NY 11596
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Peerless Pump
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Third & Duck Rd
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Grandview MO 64030
816-763-6000

Planter Technology-Natural Spring
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Mt View CA 94043
415-962-8982

Plastech Div Pennsylvania Pacific Corp
John Fitch Industrial Pk
Warminster PA 18974
215-672-5300

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Canton MA 02021
617-828-3400

Playtime Equipment Corp
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Mars PA 16046
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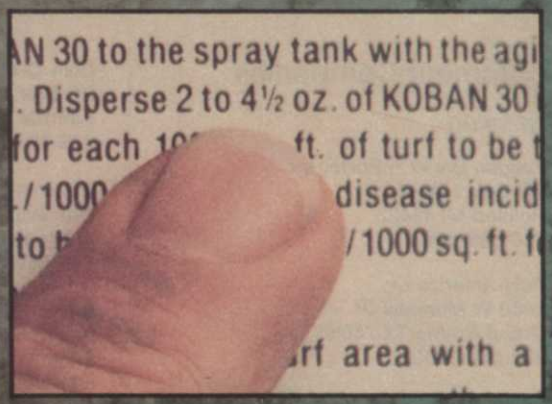

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Holland MI 49423
616-399-1963

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PO Box 7837 Lyell Sta
Rochester NY 14606
716-458-0800

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Springfield IL 62708
217-528-1311

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Appleton WI 54911
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18155 Edison
Chesterfield MO 63017
314-532-7000

★ Princeton Mfg Co
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PO Box 246
Canal Winchester OH 43110
614-837-9096

Professional Turf Specialties
400 N Town Rd
Normal IL 61761
309-454-2469

Progressive Electronics
432 S Extension Rd
Mesa AZ 85202
602-834-4308

★ Promark Prods West Inc
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Covina CA 91723
213-332-9388

Radar Engineers
9535 NE Colfax
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★ Rain Bird Sprinkler Mfg Corp
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Glendora CA 91740

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Burbank CA 91503
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213-693-2721

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Sioux Falls SD 57101
605-336-2750

Raverty's Sod Blades
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Duluth MN 55803
218-728-5138

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PO Box 14
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215-775-3301

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Rhino Products
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Dallas TX 75222
214-651-0733

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Kewanee IL 61443
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Paramus NJ 07652
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Beresford SD 57004
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Sodus MI 49126
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Skil Corp
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Wayne PA 19087

Smith Precision Products
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Newbury Park CA 91320
805-498-6616

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817-640-1488

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Wheaton IL 60187
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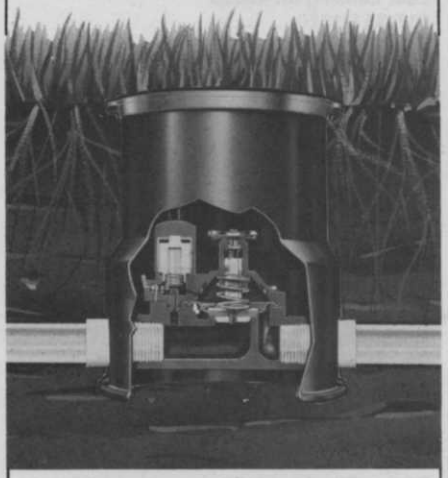

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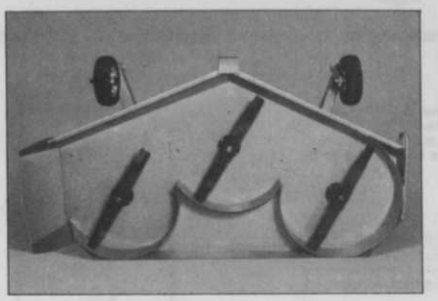

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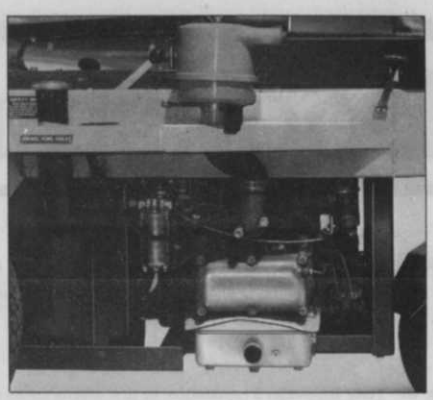

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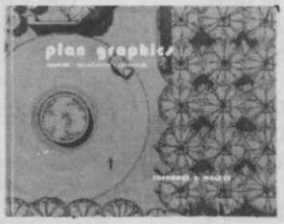

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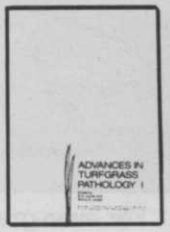

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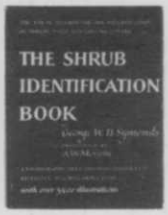

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Nalco Chemical Co	
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Stull Chemical Co	Bivert

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Aquashade Inc	Aquashade
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Sandoz Inc	

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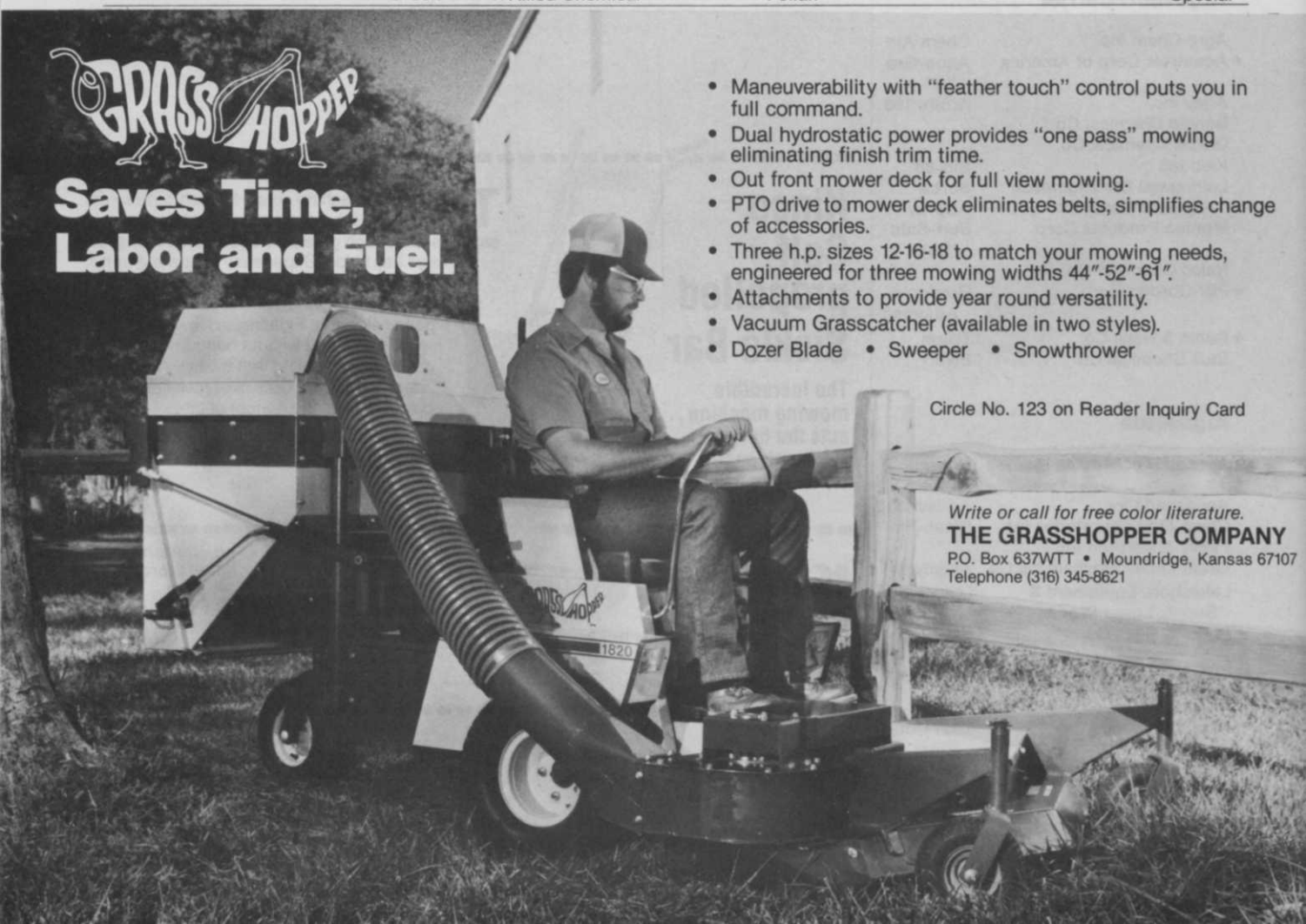

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Andersons	Tee Time
Best Products	
Bonide Chemical Co	
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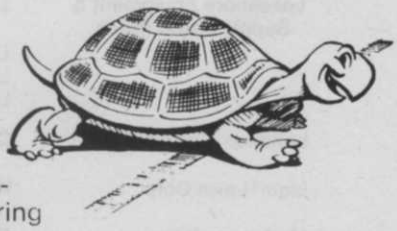

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★Velsicol Chemical Corp	Ramik
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Bonide Chemical Co	
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Drexel Chemical Co	
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Kalo Inc	Bio-Film
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★PBI-Gordon Corp	Gordon's Exhalt 800
★Rohm & Haas Co	
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Stull Chemical Co	Bivert
Superior Fiber Products Co	Fiber-Lock
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W A Cleary Chemical Corp	All Wet
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PO Box 267
Lathrop CA 95330
209-858-2541

Bonide Chemical Co
Two Wurz Ave
Yorkville NY 13495
315-736-8231

Chemical Companies

continued

Borderland Products
360 Fulton St
PO Box 366
Buffalo NY 14240
716-825-3300

Samuel Cabot Inc
One Union St
Boston MA 02108
617-723-7740

Cal Fiber Co
611 S Anderson St
Los Angeles CA 90023
213-268-0191

Cellin Mfg Inc
PO Box 688
Springfield VA 22150

Chempar Chemical Co
60 E 42 St
New York NY 10165
212-687-3990

★Chevron Chemical Co
575 Market St
San Francisco CA 94105

★Ciba-Geigy Corp Agri Div
PO Box 11422
Greensboro NC 27409
919-292-7100

★C-I-L Inc
171 Queens Ave
PO Box 5201
London ON N6A 4L6
Canada
519-672-9220

Clean-Flo Laboratories Inc
4342 Shady Oak Road
Hopkins MN 55343
800-328-6656, 612-935-2137

W A Cleary Chemical Corp
1049 Somerset St
Somerset NJ 08873
201-247-8000

Conrel
110 A Street
Needham Heights MA 02194
617-449-3970

★Conwed Corp
444 Cedar St
PO Box 43237
St Paul MN 55164
612-221-1100

Coopers Creek Chemical Corp
River Road
West Conshohocken PA 19428
215-828-0375

★Creative Sales Inc
222 N Park Ave
Fremont NE 68025
402-727-4800

Crystal Chemical Co
1525 N Post Oak Rd
Houston TX 77055
713-682-1221

★Ross Daniels Inc
1720 Fuller Road
West Des Moines IA 50265
515-225-6471

Davey Tree Experts Inc
City Bank Bldg
Kent OH 44240

Decratrend Paint & Coatings
251 Mason Way
Industry CA 91746
213-333-4592

★Diamond Shamrock Ag Chem Div
1100 Superior Ave
Cleveland OH 44114
216-694-5000

C B Dolge
11 Ferry Lane
Westport CT 06880
203-227-9591

★Dow Chemical USA
PO Box 1706
Midland MI 48640
517-636-0968

Drexel Chemical Co
2487 Pennsylvania
PO Box 9306
Memphis TN 38109
901-774-4370

E I du Pont de Nemours & Co
Wilmington DE 19898
302-774-2132

★Elanco Products Co
730 S Alabama St
Indianapolis IN 46285
317-261-3638

★Encap Prods
PO Box 278
Mt Prospect IL 60056

★Estech General Chemicals Corp
PO Box 1996
Winter Haven FL 33880
813-294-7793

Estech General Chemicals Corp
30 N La Salle St
Chicago IL 60602
312-322-8345

Faesy & Besthoff Inc
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Edgewater NJ 07020
201-945-6200

★FBC Chemicals Inc
4311 Lancaster Pike
PO Box 2867
Wilmington DE 19805

Fuerst Brothers Inc
PO Box 271
Rhinebeck NY 12572
914-876-3575

General Bandages Inc
8300 Lehigh Ave
Morton Grove IL 60053
312-966-8383

W R Grace & Co
62 Whittemore Ave
Cambridge MA 02140
617-876-1400

Grass Fiber Inc
520 E Second St
Junction City OR 97448
503-998-6812

Grass Growers Inc
424 Cottage Place
Plainfield NJ 07060
201-755-0923

★Great Lakes Biochemical Co
6120 W Douglas Ave
Milwaukee WI 53218
414-464-1200

Great Salt Lake Mineral & Chem Corp
PO Box 1190
Ogden UT 84402
801-731-3100

Gulf States Paper Corp
PO Box 3199
Tuscaloosa AL 35404
205-553-6200

Hendrix & Dail Inc
803 Industrial Blvd
PO Box 631
Greenville NC 27834
919-758-4263

Heritage House Prod Corp (See Liqui Lawn Corp)

Geo W Hill & Co
8010 Dixie Hwy
Florence KY 41042
606-371-8423

Hooker Chemical
PO Box 344
Niagara Falls NY 14302

★Hopkins Agricultural Chemical Co
PO Box 7532
Madison WI 53707
608-222-0624

Hyper-Humus Co
PO Box 267
Newton NJ 07860
201-383-2300

ICI
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Wilmington DE 19897

IMC Chemical Group Inc
2000 Prudential Tower
Boston MA 02199
617-226-8100

★International Spike
PO Box 1750
Lexington KY 40593
800-354-9360

International United Chemical Co
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Los Angeles CA 90001
213-232-3445

Kalo Inc
9233 Ward Pkwy
Kansas City MO 64114
800-821-3172

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300 S Abbe Road
Elyria OH 44035
216-323-7544

Lebanon Chemical Corp
PO Box 647
Danville IL 61832
217-446-0987

Leffingwell Div Thompson Hayward Chemical Co
111 S Berry St
Brea CA 92621
714-529-3973

Liqui*Lawn Corp
4548 Emery Industrial Pkwy
Warrensville Heights OH 44128
216-831-3610

Loft-Kellogg Seed Inc
322 E Florida St
Milwaukee WI 53204
414-276-0373

★Maag Agrochemicals Hoffman-LaRoche
340 Kingsland St
Nutley NJ 07110
201-235-3633

★Mallinckrodt Inc
3600 N Second St
St Louis MO 63147
314-982-5043

J J Mauget Co
2838 N Naomi St
PO Box 3422
Burbank CA 91504
213-849-2309

Michigan Peat Co
PO Box 66388
Houston TX 77006
713-522-0711
800-231-6211

Miller Chemical & Fertilizer Corp
PO Box 333
Hanover PA 17331

★Milwaukee Metropolitan Sewerage District
735 N Water St
Milwaukee WI 53202
414-278-2034

★3M Agricultural Prods
Bldg 223-6SE 3M Center
St Paul MN 55144
612-733-8403

★Mobay Chemical Corp Agri Chem Div
Box 4913
Hawthorn Rd
Kansas City MO 64120
816-242-2000

★Monsanto
800 N Lindbergh Blvd
St Louis MO 63166
314-694-1000

Montco Products Corp
Box 404
Ambler PA 19002
215-628-3144

MSD AGVET Div Merck & Co
PO Box 2000
Rahway NJ 07065
201-574-6993

Nalco Chemical Co
2901 Butterfield Rd
Oak Brook IL 60521
312-887-7500

National Bark Sales
1365 N Orchard St
Boise ID 83704
208-375-0656

National Bird Control
PO Box 1
Skokie IL 60076
312-675-2368

Occidental Chemical Co
PO Box 5337
Houston TX 77012

Oil-Dri Corp of America
520 N Michigan Ave
Chicago IL 60611
312-321-1515

★Olin Corp
PO Box 991
Little Rock AR 72203

★PBI-Gordon Corp
300 S Third St
Kansas City KS 66118
816-421-4070

★Pennwalt Corp
Three Pkwy
Philadelphia PA 19102
215-587-7000

Petrochemicals Co
2001 Worth Grove
Ft Worth TX 76101
817-625-2111

Plant Marvel Laboratories Inc
624 W 119 St
Chicago IL 60628
312-264-0450

Reclamare Co
20727 Seventh Ave S
Seattle WA 98148
206-824-2385

★Rhone-Poulenc Chemical Co Agrochem Div
Box 125
Black Horse Lane
Monmouth Junction NJ 08852
201-297-0100

★Rohm & Haas Co
Independence Mall West
Philadelphia PA 19105
215-592-3000

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480 Camino Del Rio
San Diego CA 92108

Henry E Sanson & Sons Inc Cloro-Spray Div
475 Beaver St
Bristol PA 19007
215-785-5201

★O M Scott & Sons Co Proturf Div
Marysville OH 43040
513-644-0011

Sea Ranch Inc
Rt 2 Box 604
Sheridan AR 72150
501-942-2515

Sewerage Commission of Milwaukee
8502 S Fifth Ave
Oak Creek WI 53154

Shell Chemical Co
One Shell Plaza
PO Box 3871
Houston TX 77379
713-241-0074

Sierra Chemical Co
1001 Yosemite Dr
Milpitas CA 95035
408-263-8080

Soil Products Development Co
2664 N Mountain Ave
Upland CA 91786
714-985-8342

★S P R A-Mulch
PO Box 189
Mattoon IL 61938
217-235-0561

Sta-Green Fertilizers
PO Box 540
Sylacauga AL 35150
205-245-5282

Stanford Seed Co
560 Fulton St
PO Box 366
Buffalo NY 14240
716-825-3300

Stauffer Chemical Co Agricultural Chem Div
Westport CT 06880
203-222-3000

Stull Chemical Co
1006 Paulsun
San Antonio TX 78219
512-227-5255

Sudbury Laboratory Inc
572 Dutton Rd
Sudbury MA 01776
617-443-8844

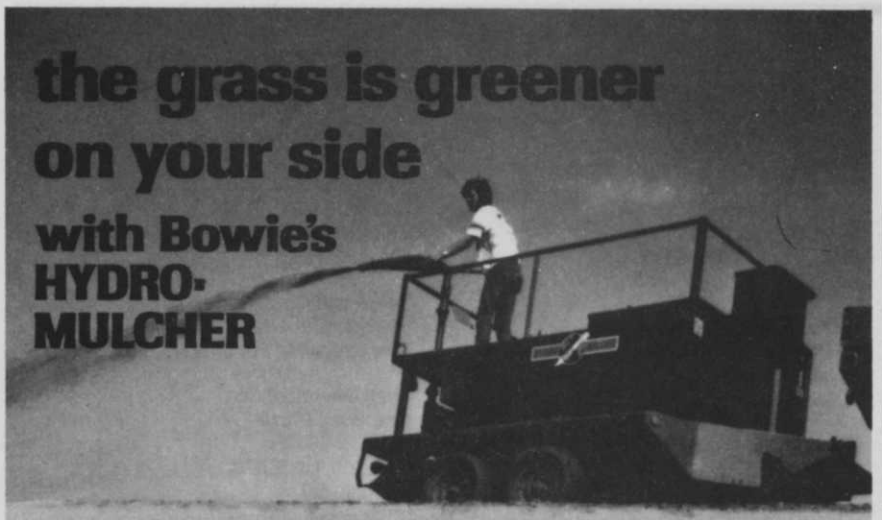
Superior Fiber Products Co
1201 65th St

Baltimore MD 21237
301-866-4450

TH Agriculture & Nutrition Co
5220 Speaker Rd
Kansas City KS 66106
913-321-3131

Thompson-Hayward Chemical Co (See TH Agriculture & Nutrition Co)

TUCO Div Upjohn Co
9823-190-45
Kalamazoo MI 49001
616-385-6609



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Jacksonville FL 32216

★ Union Carbide Ag Prod Co
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Ambler PA 19002
215-628-1441

Unique Fertilizers Inc
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Deptford NJ 08096
609-848-4444

★ United States Gypsum Co
101 S Wacker Drive
Chicago IL 60606
312-321-3852

US Borax
3075 Wilshire Blvd
Los Angeles CA 90010

USS Agri-Chemicals
PO Box 1685
Atlanta GA 30301
404-572-4132

★ Vaughan's Seed Co
Chimney Rock Rd
Bound Brook NJ 08805
201-356-4200

★ Velsicol Chemical Corp
341 E Ohio
Chicago IL 60611
314-670-4665

Vineland Chemical Co
W Wheat Rd
PO Box 745
Vineland NJ 08360

WD-40 Co
1061 Cudahy Place
San Diego CA 92110
714-275-1400

Weyerhaeuser
2525 S 336
Federal Way WA 98003
206-924-2345

★ Wilt-Pruf Products Inc
PO Box 4280
Greenwich CT 06830
203-531-4740

Wyco International
4811 Carnegie Ave
Cleveland OH 44103
216-391-5047

Zoecon Corp Ag Chem Div
PO Box 975
Palo Alto CA 94306

5. Seed Companies

★ Adelphi
182-12 93rd Ave
Jamaica NY 11423
212-739-4400

J & L Adikes Inc
182-12 93rd Ave
Jamaica NY 11423
212-739-4400

Agriculture Service Corp
5240 Gaffin Rd SE
Salem OR 97301
503-581-8899

★ Ag Service Corp
PO Box 101
Harrisburg OR 97446
503-995-6754

Atlee Burpee Co
300 Park Ave
Warminster PA 18974
215-674-4900

★ E F Burlingham & Sons
PO Box 217
Forest Grove OR 97116
503-357-2141

★ Caudell Seed Inc
1201 Story Ave
Louisville KY 40206
502-583-4404

Ernst Crownvetch Farms
RD 5 Box 806
Meadville PA 16335
814-425-7276

Grasslyn Inc
641 Pine Grove Rd
State College PA 16801
814-238-0133

Great Western Seed Co Sub Lofts
Pedigreed Seeds
Ninth & Jackson St
Albany OR 97321
503-926-5892

Jonathan Green & Sons Inc
PO Box 326
Farmingdale NJ 07727
201-938-7007

Herbst Brothers Seedsmen
10000 N Main St
Brewster NY 10509

Geo W Hill & Co
8010 Dixie Hwy
Florence KY 41042
606-371-8423

★ International Seeds Inc
PO Box 168
Halsey OR 97348
503-369-2251

★ Jacklin Seed Co
W 5300 Jacklin Ave
Post Falls ID 83854
208-773-7581

Loft-Kellogg Seed Inc
322 E Florida St
PO Box 684
Milwaukee WI 53201

Lofts/New England
Arlington MA 02174
617-648-7550

Lofts/New York
Cambridge NY 12816
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★ Lofts Pedigreed Seed Co
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Lynnville IA 50153

Mangelsdorf Seed Co
Box 327
St Louis MO 63166
314-535-6700

Manhattan Ryegrass Growers
1349 Capitol St NE
Salem OR 97303

Midwestern States Fescue Assn
149 Park Central
Springfield MO 65806

★ North American Plant Breeders
PO Box 2955
Mission KS 66201
913-384-4940

★ Northrup King Co
1500 Jackson St NE
Minneapolis MN 55413
612-781-8011

★ Oregon Fine Fescue Commission
1349 Capitol NE
Salem OR 97303
503-363-1022

Oregon Ryegrass
Oseco BC Ltd
PO Box 91204
West Vancouver BC V7V 3N6
Canada
604-921-7322

Oseco Inc
PO Box 219
Brampton ON L6V 2L2
Canada
416-846-5080

★ Penncross Bentgrass Assn
1349 Capitol St NE
Salem OR 97303

★ Pennfine Perennial Ryegrass
PO Box 923
Minneapolis MN 55440

Otto Pick & Sons Seeds Ltd
Box 126
Richmond Hill ON L4C 4X9
Canada
416-884-1147

Otto Pick & Sons Seeds Ltd
4750 Lesage
St Hyacinthe PQ J2S 7B4
Canada
514-799-4586

Otto Pick & Sons Seeds Ltd
RR 2 Box 4
Winnipeg MB R3C 2E6
Canada
204-633-0088

★ Pickseed West
Box 888
Tangent OR 97389
503-926-8886

Prairie Seeds Ltd
RR 1
South Edmonton AB T6H 4N6
Canada
403-463-4736
403-955-2728

Rothwell Seeds Ltd
116 Adelaide St N
PO Box 511
Lindsay ON K9V 4S5
Canada
705-324-9591

★ Rugby Kentucky Bluegrass
PO Box 923
Minneapolis MN 55440

OM Scott & Sons
Marysville, OH 43041

Seaboard Seed Co
PO Box 117
Bristol IL 60512
312-553-5801

Seed Production & Introduction Corp (S P I C)
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716-825-3300

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215-643-6470

Sunbelt Seeds Inc
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Tucker GA 30084
404-491-1311

★ Tee-2-Green Corp
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Hubbard OR 97032
800-547-0255

★ Turf-Seed Inc
77 G St
PO Box 250
Hubbard OR 97032
503-981-9571

Vaughan's Div Vaughan-Jacklin Corp
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Downers Grove IL 60515
312-969-6300

★ Vaughan's Seed Co
Chimney Rock Rd
Bound Brook NJ 08805
201-356-4200

★ Warren's Turf Nursery
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Palos Hills IL 60465
312-974-3000

Whitney Dickinson Seeds Inc
52 Leslie St
Buffalo NY 14240
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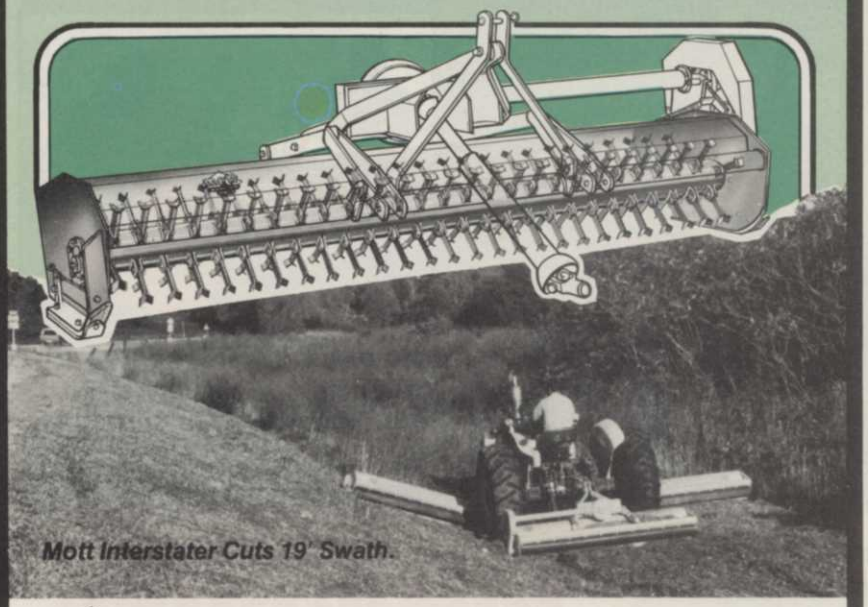

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McMullen Farm Supply (McMillen) Athens 205-233-0893
Parts Service Co (Teledyne) Montgomery 205-262-4485
Tieco Inc (Cushman Turf, Heckendorn, Otterbine-Barebo, Royer, Ryan Turf) Birmingham 205-328-6464
Tieco Inc (Cushman Turf, Heckendorn, Otterbine-Barebo, Royer, Ryan Turf) Montgomery 205-834-3705

Alaska

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Alaska Greenhouses Inc (Royer) Anchorage 907-333-6970
Equipment Services Ltd (McMillen) Anchorage 907-272-3528
Evans Engine & Equip (McMillen) Anchorage 907-276-4838
Totem Equip & Supply Inc (Ryan Turf, Teledyne) Anchorage 907-272-9573

Arizona

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Huber Sales Inc (Cushman Turf, Heckendorn) Phoenix 602-955-1731
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Lawn & Garden Supply (Royer) Tucson 602-294-3177
Norton Corp Turf Equip (Otterbine-Barebo, Ryan Turf) Phoenix 602-997-2661
Southwest Products Corp (Teledyne) Phoenix 602-269-3581
Van Waters & Rogers (Power Spray Tech) Phoenix 602-272-3272

Arkansas

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Capital Equipment Co (Cushman Turf, Otterbine-Barebo, Royer) Alexander 501-847-3057, 800-482-5537
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Treestock Enterprises Inc (Big John Tree Transplanter) Tumbling Shoals 501-362-6835
Turfaid Inc (Ryan Turf) North Little Rock 501-771-0224

California

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Andersen Chem & Turf Supply (Otterbine-Barebo) Westminster
Capel Klang & Co (Hermann A Wirth) South San Francisco
H V Carter Co (Heckendorn) Fresno 209-224-7626
H V Carter Co (Heckendorn) Oakland 415-536-9300
H V Carter Co (Heckendorn) Sacramento 916-927-3824
Central Garden Supply (Hermann A Wirth) South San Francisco
Cushman Motor Sales Inc (Cushman Turf, Ryan Turf) Cerritos 213-926-0729
Custom Motors (Rivlex Inc) Costa Mesa 714-751-5851
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Distribuidora Glomar (Hermann A Wirth) Maywood
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Hazard Products (Grass Pavers) San Diego 714-295-0051
Mr Norman Hazel (Buffalo Turbine) Valley Center 714-749-1767
Lanco Engine Services Inc (Teledyne) Los Angeles 213-772-2471
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Lockhart Seeds Inc (Hermann A Wirth) Stockton
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Napa County Farm Supply (Hermann A Wirth) Napa
Price Nursery & Garden Supply (Big John Tree Transplanter) Cathedral City 714-324-1226
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Richard Smith (Buffalo Turbine) Palm Springs
Star Garden Supply Inc (Hermann A Wirth) Los Angeles
Toro Pacific (Rivlex Ind Inc) City of Industry 714-594-5811
Tri Valley Tractor (Rivlex Ind Inc) Simi Valley 805-527-9238
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Van Waters & Rogers (Power Spray Tech) San Jose 408-263-9900
Viola Seed Co (Hermann A Wirth) San Francisco
C M Volkman & Co (Hermann A Wirth) Oakland
West Point Industrries (Fuerst Bros, Rivlex Ind Inc) Long Beach 213-432-6954
Westoro Distributing Inc (Cushman Turf, Ryan Turf) Burlingame 415-697-0794
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Magovern Co (Cushman Turf, Royer, Ryan Turf Windsor Locks 203-623-2508
W H Milikowski (Hermann A Wirth) Stafford Springs
New Haven Bag & Burlap (Hermann A Wirth) Hamden
Plasticrete Block & Supply Corp (Grass Pavers) North Haven 203-239-4216
Shemin Nurseries Inc (Hermann A Wirth) Greenwich
Slater Supply Co (Hermann A Wirth) Wallington
South Windsor Equipment (Buffalo Turbine) Windsor 203-289-3406

Delaware

Turf Equipment & Supply Co (Toro, Sensation, Olathe, Snowco) 301-796-5575

District of Columbia

Paul's Wholesale Florist Co (Hermann A Wirth) Washington
Turf Equipment & Supply Co (Toro, Sensation, Olathe, Snowco) Washington 301-621-2975

Florida

American Outdoor Corp (Teledyne) St Petersburg 813-522-5502
Atlantic Fertilizer Co (Hermann A Wirth) Apopka
Big John Tree Transplanters (Big John Tree Transplanters) Clearwater 813-446-7642
Butler's Supply Corp (Hermann A Wirth) Ft Lauderdale
Century Rain Aid (Otterbine-Barebo) Clearwater
Century Rain Aid (Otterbine—Barebo) Tampa
Chief Greenleaf Inc (Power Spray Tech) North Palm Beach 305-626-1081
DeBra Tractor & Implement Inc (Heckendorn) Ft Myers 813-332-4663
DeBra Tractor & Implement Inc (Cushman Turf, Heckendorn) Hollywood 305-987-1400
DeBra Tractor & Implement Inc (Heckendorn, Rivlex Ind) Tampa 813-621-3077
Florida Growers Supply (Hermann A Wirth) Apopka
Gulf Shore Turf Supply Inc (Ryan Turf) Pensacola 904-968-2184
Hector Turf & Garden Inc (Royer, Ryan Turf) Miami 305-652-4470
Highway Equip & Supply Co (Teledyne) Orlando 305-843-6310
Horticultural Service Center (Wheel Spray) Sarasota
Marine Industrial Equipment Corp (Teledyne) Jacksonville 904-355-4563
Melrose Supply & Sales (Otterbine-Barebo) Fort Lauderdale
P H Neff & Sons Inc (Teledyne) Miami 305-592-5240
Paver Systems Inc (Grass Pavers) Lake Worth 305-586-2957
Pounds Motor Co (Buffalo Turbine) Winter Garden 305-656-1352
Southern Mill Creek Products (Buffalo Turbine) Tampa 813-626-2111
Speedling Inc (Hermann A Wirth) Sun City
Tieco Golf Coast Inc (Cushman Turf, Heckendorn, Otterbine-Barebo, Royer) Pensacola 904-434-5475
Tresca Industries (Heckendorn, Otterbine-Barebo, Rivlex Ind) Jacksonville 904-268-6741
Tresca Industries (Heckendorn, Otterbine-Barebo) Maitland 305-834-5554
UESCO (Hermann A Wirth) Pompano Beach
V-J Growers Supply Inc (Hermann A Wirth) Apopka
Wildwood Industries (McMillen) Ft Lauderdale 305-792-7330
Woodbury Chemical Co (Power Spray Tech) Princeton 305-247-0524
Zaun Equipment Inc (Cushman Turf, Royer, Ryan Turf) Fort Myers 813-482-1259
Zaun Equipment Inc (Cushman Turf, Royer, Ryan Turf) Jacksonville 904-388-4682, 904-387-0516
Zaun Equipment Inc (Cushman Turf, Royer, Ryan Turf) Orlando 305-841-8460
Zaun Equipment Inc (Cushman Turf, Royer, Ryan Turf) St Petersburg 813-521-3571

Georgia

Ben Meadows Co (Hermann A Wirth) Chamblee
Blalock Machy & Equip Co (Teledyne) Atlanta 404-521-0181
Lawn & Turf Inc (Cushman Turf, Heckendorn, Royer, Ryan Turf) Conyers 404-483-4743
Mathis-Akins Concrete Block Co (Grass Pavers) Macon 912-746-5154
McCranee Tractor Co (McMillen) Montezuma 912-472-2521
Reachall Sales Inc (McMillen) College Park 404-768-3003
Regal Chemical Co (Otterbine-Barebo) Alpharetta
Jim Sanford (Allegretti & Co) Savannah 912-354-5553
Stovall & Co (Fuerst Bros) Atlanta
ULV Equipment & Chemicals Co (Power Spray Tech) Norcross 404-921-7936

Hawaii

Lanco Engine Service Inc (Teledyne) Honolulu 808-841-5896
Pacific Machinery (Cushman Turf, Ryan Turf) Waipahu 808-671-6464
Van Waters & Rogers (Power Spray Tech) Honolulu 808-836-1363

Idaho

Boyd Martin Co (Cushman Turf, Ryan Turf) Boise 208-376-8891
Wholesalers Inc (Grass Pavers) Meridian 208-888-4050

Illinois

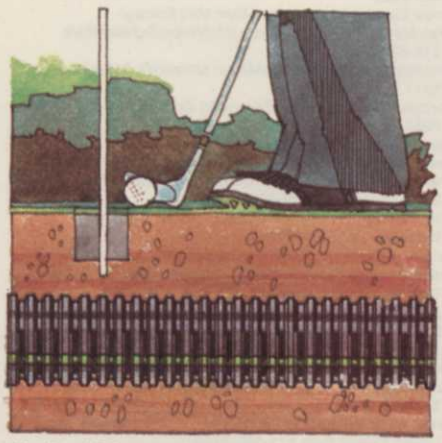
George G Anderson Co (Buffalo Turbine) Harvey 312-333-0222
Arrow Equipment Co (Artic Mizer Mfr) Chicago
Atlas Material Handling Equip (McMillen) Schiller Park 312-678-3450
Bloomquist Implement (McMillen) Momence 815-472-2611
Carlson Sales Co (Grass Pavers) St Charles 312-377-0683
Case Power & Equip (McMillen) Joliet 815-436-7714
Case Power & Equip (McMillen) LaGrange 312-354-8700
Chicago Toro Turf Irrig Inc (Otterbine-Barebo, Wheel Spray) Itasca 312-773-5555
Arthur Clesen Inc (Buffalo Turbine, Wheel Spray) Wheeling 312-537-2177
George A Davis Inc (Ryan Turf) Chicago 312-763-6363
Drake-Scruggs Equipment Inc (Otterbine-Barebo, Ryan Turf) Decatur 217-428-3485
Florist Products Inc (Hermann A Wirth) Schaumburg
L E German Implement Co (McMillen) Princeville 309-385-4316
Hillsman Equipment Co (Artic Mizer Mfr) Melrose Park
Howell Tractor & Equip Co (McMillen) Elk Grove Village 312-439-2150
Illinois Lawn Equipment Inc (Cushman Turf, Heckendorn, Royer) Orland Park 312-349-8484
J-M Trading Corp (Hermann A Wirth) Chicago
Mercury Chemical Co (Power Spray Tech) Chicago 312-525-7778
Neff Concrete Products (Grass Pavers) Danville 217-442-0421
Roseman Tractor Equipment Co (Artic Mizer Mfr) Evanston
Frank D Smith & Assoc (Fuerst Bros) Palatine
Turf & Tree Supplies Inc (Big John Tree Transplanter) Rockton 815-624-7578

Indiana

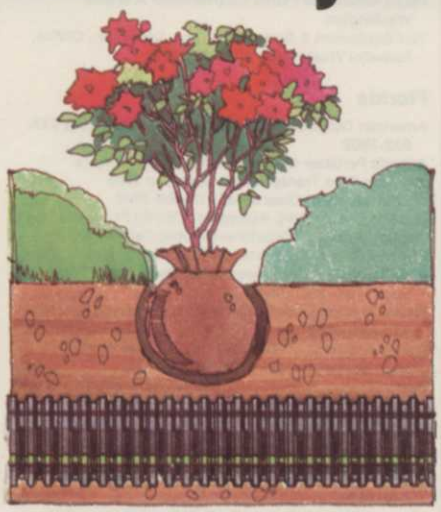
ADI Distributors Inc (Buffalo Turbine) Carmel 317-844-8221
Allen Landscape Supply (Wheel Spray) Highland 219-924-3938
Barnard Tractor Sales (McMillen) Martinsville 317-831-3881
Bright Equipment Inc (McMillen) Indianapolis 317-787-2201
Brown Equip Distributing Co (Alpina) Corydon
Buirkemeier Feed & Grain (McMillen) Rushville 317-645-5077
Carmel Welding Supply (McMillen) Carmel 317-846-3493
Case Power & Equipment (McMillen) Logansport 219-722-3111
Dacav Industries (McMillen) Highland 219-924-2450
Dearing Equipment (McMillen) Greens Fork 317-886-5301
Dierkes Implement & Sales (McMillen) Decatur 219-724-3860
Dunville Inc (Otterbine-Barebo) Evansville
Eagle Machine Co (Teledyne) Indianapolis 317-637-2521
Garco Industrial Equip Inc (McMillen) Indianapolis 317-788-4624
Grimme Distributing Co (Alpina) Liberty
Hendrickson Enterprises Inc (McMillen) Boonville 812-897-4090
Indiana Turf Equip Corp (Heckendorn, Royer) Indianapolis 317-291-2280
Interstate Sand & Gravel Co (Grass Pavers) Covington 317-793-2225
Kenny Machinery Corp (Cushman Turf, Otterbine-Barebo, Ryan Turf) Indianapolis 317-872-4793
Maier Equipment Co (McMillen) Fort Wayne 219-489-5511
Pardieck Sales & Service (McMillen) Seymour 812-522-4292
Potter Materials Service Inc (Grass Pavers) Indianapolis 317-356-6351
R L Stauffer Inc (McMillen) Portland 219-726-4206
Summit Power Equip Distr Inc (Cushman Turf, Ryan Turf) Fort Wayne 219-484-2507
Wabash Farm Bureau Co-op (McMillen) Wabash 219-563-1191
Weiss Machinery Corp (McMillen) Daleville 317-378-3397
Weiss Machinery Corp (McMillen) Fort Wayne 219-484-0761

ADS Drainage Tubing

It's dependably tough for your toughest turf jobs.

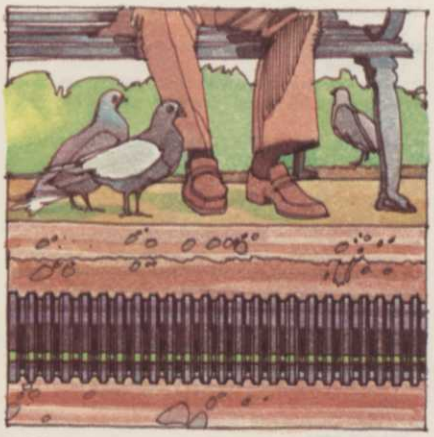


Flexible ADS drains your greens.



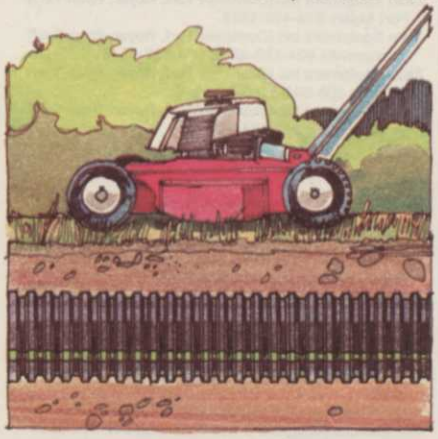
ADS helps maintain beautiful landscapes.

ADS keeps your athletic fields dry.



ADS controls water runoff in heavily trafficked areas.

Sandy soils call for ADS Drain Guard®—the nylon filter that won't block or clog.



ADS tubing—a small part of your turf care budget.

Whether you buy or sell turf care products, you want quality. That's why ADS polyethylene tubing is your best bet. For healthy soil, drainage is important. Strong and durable, ADS tubing provides years of trouble-free drainage, and helps maintain stable soil systems.

ADS is easy to install, requiring less labor and no heavy machinery. A flexible tubing, it follows ground contours and adapts to underground obstacles. And, ADS tubing won't rot, rust or break down during handling or backfilling. A full line of accessory fittings and couplings he!p simplify even the most challenging installations.

At a cost of just pennies per foot, ADS means quality AND value.

This season rely on ADS drainage tubing. You deserve the best.

SPECIFICATIONS

ASTM F-405, Standard Specification for Corrugated Polyethylene Tubing and Fittings. **SCS,** National Engineering Standard, Code 606. **ASTM F-667,** Standard Specification for 10", 12" and 15" Corrugated Polyethylene Tubing.

Look for the ADS green stripe

It's your sign of quality—#1 in the land.

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To serve your drainage needs, ADS operates 21 manufacturing plants nationwide, and the eight regional sales offices listed below:

Madera, CA	209-674-0903
Iowa City, IA	319-338-3689
Bellevue, WA	206-643-2770
Monticello, IL	217-762-9448
Atlanta, GA	404-393-0602
Napoleon, OH	419-599-0585
Livermore, KY	502-733-4324
Palmer, MA	413-283-9797

ADS®

ADVANCED DRAINAGE SYSTEMS, INC.

Corporate Office
3300 Riverside Drive
Columbus, Ohio 43221
(614) 457-3051

For additional product and technical information, contact your nearest ADS sales office.

Equipment Dealers

continued

Iowa

Big Bear Equipment Co (Otterbine-Barebo) West Des Moines
Big Bear Turf Equip Co (Cushman Turf) Davenport 319-386-8883
Brayton Chemical Co (Wheel Spray) West Burlington 52655 319-752-6324
Cedar Rapids Block Co (Grass Pavers) Cedar Rapids 319-363-0233
Concrete Products Co (Grass Pavers) Sioux City 712-252-4251
Foster's Inc (Hermann A Wirth) Waterloo
Industrial Supplies Inc (Cushman Turf) Des Moines 515-288-7446
Mumme Distributing Co (Alpina) Danville
Port Huron Machinery Co (Teledyne) Des Moines 515-266-1136
Tri-State Toro Co (Ryan Turf) Bettendorf 319-332-6684
Tri-State Toro Co (Otterbine-Barebo) Davenport

Kansas

Capitol Concrete Products (Grass Pavers) Topeka 913-233-3271
Champion Turf Equipment Inc (Ryan Turf) Wichita 316-943-0283
Harley Industries (Teledyne) Wichita 316-262-5156
Landsco Corp (Rivlex Ind Inc) Salina 913-825-0578
Rhodes Chemical Co (Power Spray Tech) Kansas City 913-432-2424

Kentucky

Blue Lake Block Co (Grass Pavers) Hopkinsville 502-886-6696
Commonwealth Block Co (Grass Pavers) Lexington 606-259-0518
Croushorn Equipment Co (McMillen) Harlan 606-573-2454
Tieco Inc (Cushman Turf, Heckendorn, Otterbine-Barebo, Royer, Ryan Turf) Louisville 502-499-9300, 800-292-9486
Wilder Motor & Equip Co (Teledyne) Louisville 502-966-5141

Louisiana

Featherlite Corp (Grass Pavers) Austin 512-477-2000
Louisiana Industries (Gras Pavers) Bossier City 318-742-3111
Oldham Chemicals Co (Power Spray Tech) Hammond 504-345-5073
Public Health Systems (Buffalo Turbine) Metairie 504-522-9529
Savvy Chemical Co (Buffalo Turbine) Metairie 504-835-5926
Southern Specialty Sales Co (Cushman Turf, Heckendorn, Royer, Ryan Turf) New Orleans 504-486-6101
Wm F Surgi Equipment Corp (Teledyne) Baton Rouge 504-293-0556
Wm F Surgi Equipment Corp (Teledyne) New Orleans 504-525-3142

Maine

Auburn Tractor Co (McMillen) Auburn 207-784-2321
Gopin & Rolnick Equipment Co (Buffalo Turbine) Bangor 207-947-4533
Ingraham Equipment Co (McMillen) Knox 207-568-3245
Maine Cement Products Co (Grass Pavers) Bangor 207-942-7393
Maine Cement Products Co (Grass Pavers) Portland 207-775-2351

Maryland

Adams Equipment Inc (Ryan Turf) Silver Spring 301-585-1322
Balcon Inc (Grass Pavers) Baltimore 301-687-5200
S M Christholf & Sons (Artic Mizer Mfr) Timonium
Cornell Chemical Co (Power Spray Tech) Linthicum Heights 301-636-2400
G L Cornell Co (Cushman Turf, Heckendorn) Gaithersburg 301-948-2000
Jims Air Compressor (McMillen) Tuxedo
Lutherville Supply & Equipment (McMillen) Funkstown 301-733-7414
Residex Corp (Power Spray Tech) Gaithersburg 301-840-1395
N W Shorp & Sons Inc (Hermann A Wirth) Rockville
Summit Chemical Co (Power Spray Tech) Baltimore 301-467-1233
Turf Equipment & Supply Co (Toro, Sensation, Olathe, Snowco) Baltimore 301-796-5575

Massachusetts

Bacher Corp (Artic Mizer, Heckendorn) Billerica 617-667-2171
Chriscola Farm Equipment (Buffalo Turbine) Agawan 413-786-1710
O R Cote Co (Artic Mizer) Springfield
Diesel Eng Sales & Eng Corp (Teledyne) Boston 617-482-6778
Foster Masonry Products Co (Grass Pavers) Westwood 617-726-1622
Griffin Greenhouse Supplies Inc (Hermann A Wirth, Royer) Tewksbury 617-851-4346
Sawtelle Brothers Inc (Cushman Turf, Royer, Ryan Turf) Swampscott 617-599-4856

Michigan

American Pest Control Inc (Buffalo Turbine) Troy 617-585-2600
Associated Parts & Service (McMillen) Farmington 313-476-1424
Bio-Serve Inc (Power Spray Tech) Troy 313-588-1005
Bridgeport Equipment Co (McMillen) Bridgeport 517-777-1900
Calumet Industrial Equipment (Artic Mizer Mfr) South Holland
Century Supply Corp (Otterbine-Barebo) Madison Heights
Ellis Sales Inc (Cushman Turf) Kalamazoo 616-375-3535
Engine Supply (Teledyne) Detroit (Novi) 313-349-9330
Fendt Builders Supply (Grass Pavers) Farmington Hills 313-474-3211
Fendt Builders Supply (Grass Pavers) Ann Arbor 313-663-4277
Fremont Farm Equipment (McMillen) Fremont 616-924-3540
Golf Car Distributors (Cushman Turf) Pontiac 313-338-0425
Hill Top Orchards & Nurseries (Hermann A Wirth) Hartford
Map-Pul Equipment Co (McMillen) Traverse City 616-946-6190
Mears Equipment (McMillen) Rosebush 517-433-5667
W F Miller Lawn & Garden (Royer) Birmigham 313-647-7700
W F Miller Lawn & Garden (Royer) Grand Rapids 616-241-4481
Northern Contractor Supply (McMillen) Traverse City 616-946-8220
Plummer Supply (Hermann A Wirth) Bradley
Schamber Tractor Sales (McMillen) Muskegon 616-733-1376
Snyder Farm Supply (McMillen) Alto 616-868-6115
Spartan Distributors Inc (Cushman Turf, Otterbine-Barebo, Ryan Turf) Sparta 616-887-7301
Thompson Equipment Co (McMillen) Iron Mountain 906-774-6543
Weingartz Supply Co (Heckendorn) Utica 313-731-7240
Western Concrete Products Co (Grass Pavers) Cadillac 616-775-3466
Wilkie Turf Equipment Co (Ryan Turf) Pontiac 313-373-8800
Woodhaven Equipment (McMillen) Gibraltar 313-675-5200

Minnesota

Anchor Block Co (Grass Pavers) St Paul 612-777-8321
Coffey's Power Eqyuip Co (Artic Mizer) Hopkins
Cushman Motor Co (Cushman Turf) Minneapolis 612-333-3487
R L Gould & Co (Ryan Turf) St Paul 612-484-8411
Itasca Equipment Co (Artic Mizer) Minneapolis
Johnson Wholesale Florist (Hermann A Wirth) St Paul
Kromer Co (Heckendorn) Mound 612-472-4167
Landco Equipment Inc (Big John Tree Transplanter) Lakeville 612-469-4941
Minnesota Toro Inc (Otterbine-Barebo, Royer) Minneapolis 612-475-2200
Bill Righeimer (Allegretti & Co) Burnsville 612-894-7798
Teledyne Wisconsin Total Power (Teledyne) Minneapolis (Osseo) 612-425-7200
Zeco Co (Artic Mizer Mfr) Minneapolis

Mississippi

Alexander Materials Co (Grass Pavers) Petal 601-544-5800
Forestry Suppliers Inc (Hermann A Wirth) Jackson
Tupelo Concrete Products (Grass Pavers) Tupelo 601-842-7811

Missouri

Allied Const Equip Co (Teledyne) St Louis 314-371-1818
Beckman Turf & Irrig Toro (Otterbine-Barebo) Chesterfield
Champion Turf Equipment Inc (Ryan Turf) Kansas City 816-333-8000
Fox Vehicles (Cushman Turf) St Louis 314-726-3260
A H Hummert Seed Co (Hermann A Wirth) St Louis
F F Kirchner Inc (Grass Pavers) Bridgeton 314-291-3200
Klughartt-Thornhill Machinery Co (Teledyne) Kansas City 816-421-6296
Mangelsdorf Seed Co St Louis 314-535-6700
Outdoor Equipment Co (Cushman Turf, Fuerst Bros, Heckendorn, Ryan Turf) Maryland Heights 314-569-3232
Patterson's Chemical Co (Hermann A Wirth) Kansas City
Pest Control Supplies (Power Spray Tech) Kansas City 816-421-4696
Robison's Lawn & Golf Inc (Cushman Turf, Fuerst Bros, Heckendorn, Otterbine-Barebo, Royer) Grandview 816-765-3333
South-Western Nursery Supply (Hermann A Wirth) St Louis
Veatch Chemical Co (Power Spray Tech) St Louis 314-832-0056

Montana

Midland Implement Co (Ryan Turf, Teledyne) Billings 406-248-7771
Turf-Aid Distributing Co (Cushman Turf, Otterbine-Barebo, Royer) Billings 406-656-8008

Nebraska

Big Bear Equipment Inc (Artic Mizer, Cushman Turf, Otterbine-Barebo) Omaha 402-331-0200
Cornhusker Equipment Co (Big John Tree Transplanter, Royer) Papillion 406-331-7755
McShane Corp (Artic Mizer Mfr) Omaha
Midwest Toro (Ryan Turf) Omaha 402-331-0500
Port Huron Machinery & Supply Co (Teledyne) Lincoln 402-432-4211

Nevada

James Earnist (Buffalo Turbine) Las Vegas 702-876-0791
C E Knowles Sr (Buffalo Turbine) Las Vegas 702-648-0000
Norton Corp Turf Equip (Cushman Turf, Otterbine-Barebo, Royer, Ryan Turf) Las Vegas 702-876-8330

New Hampshire

John L Cyr (Royer) Windham 603-893-8003
Dickenson Mower & Tractor (McMillen) Merrimack 603-424-4146
Arthur Whitcomb Inc (Grass Paveers) Keene 603-352-0101

New Jersey

Aqua Flo Inc (Otterbine-Barebo) Hammonton
Double Eagle Golf Prod Inc (Cushman Turf) Jamesburg 201-521-2500
Fairfield Tractor (Artic Mizer Mfr) Fairfield
Good-Prod Sales Inc (Hermann A Wirth) Kenilworth
Harlane Co (Hermann A Wirth) Old Tappan
E P Henry & Son Inc (Grass Pavers) Woodbury 609-845-6200
Johnson Products Inc (Hermann A Wirth) Linden
Laning Brick Co (Grass Pavers) Union 201-964-1750
Wilfred MacDonalds Inc (Cushman Turf) Clifton 201-471-0244
Matcha Machinery Co (Artic Mizer) Fairfield
McKee City Distributors (Wheel Spray) McKee City
Meskers Inc (Hermann A Wirth) River Vale
Orange Garden Supply Co (Wheel Spray) Orange 201-672-2212
John Reiner & Co (Teledyne) Carlstadt (NY City area) 201-460-9444
Residex Corp (Power Spray Tech) Clark 201-381-6200
L D Sealy Co (Artic Mizer) Wamamassa
Sherwood Chemicals Ltd (Power Spray Tech) Westville 609-848-6810
Somerville Equipment (Heckendorn) Somerville 201-526-2252
Storr Tractor Co (Royer, Ryan Turf) Somerville 201-232-7800
Storr Tractor Co (Otterbine-Barebo) Westfield
TSI Co (Hermann A Wirth) Flanders

New Mexico

AGCO Products Co (Buffalo Turbine) Mesquite 505-233-3171
Central Motive Power Inc (Teledyne) Albuquerque 505-345-8335
Evans Tree Injection Service (Mauget) Albuquerque 505-299-1635
N M Drip Irrigation (Hermann A Wirth) Las Cruzes

KERB® ENDS YOUR ANNUAL BLUEGRASS BLUES.

Annual bluegrass, alias *Poa annua,* is one tough, ugly problem. It will do a number on your fairways. But not if you apply Kerb preemergence herbicide this fall. Kerb prevents this seedy character from rearing its ugly head.

Kerb wipes out germinating Poa *before* it reaches the surface.

With Kerb your fairways stay green. Poa can't mature so there are no seeds tracked onto greens. And you can take out cool-season overseeding grasses like rye without harming dormant Bermudagrass.

Call your local supplier today and order Kerb 50-W herbicide. You'll never have the bluegrass blues again.

Circle No. 158 on Reader Inquiry Card

Use Kerb in the fall~ Poa won't sprout at all.

ROHM AND HAAS
PHILADELPHIA, PA. 19105

Read the label and use only as directed.

Equipment Dealers

continued

SW Toro New Mexico Inc (Cushman Turf, Otterbine-Barebo, Royer, Ryan Turf) Albuquerque 505-345-8676

New York

Amberg's Nursery Inc (Hermann A Wirth) Seneca Castle
American Fluoride Corp (Power Spray Tech) New Rochelle 914-633-7005
Bruedan Corp (Cushman Turf) Chester 914-469-2275
Buffalo Bobcat Inc (McMillen) Buffalo 716-631-3661
Case Power & Equipment (McMillen) Buffalo 716-681-7100
George Cook Farm Machinery (McMillen) Amenia 914-373-9000
Dina's Power Equip Co (Alpina) Milton
Eaton Equipment Corp (Royer, Ryan Turf) Hamburg 716-649-2020
Eaton Equipment Corp (Royer, Ryan Turf) Syracuse 315-457-9271
James Evarts (Buffalo Turbine) Salem 518-854-3789
Fitzwater Hardware Inc (Hermann A Wirth) Penn Yan
Gartner Equipment Co (Otterbine-Barebo) Syracuse
Girard Associates (Buffalo Turbine) Newark 315-331-0672
Fred C Gloeckmer & Co (Hermann A Wirth) New York
Grassland Equip & Irrig Corp (Fuerst Bros, Otterbine-Barebo, Ryan Turf) Latham 518-785-5841
Griffin Greenhouse Supplies (Hermann A Wirth, Royer) Albany 518-489-8419
Herbst Bros Seedsmen (Hermann A Wirth) Brewster
Hudon's Sales (Alpina) Barneveld
LeValley McLead (Artic Mizer) Birmingham
Malvese Mowers & Equip (Cushman Turf, Fuerst Bros, Royer) Hicksville 516-681-7600
J E Miller Nurseries Inc (Hermann A Wirth) Canandaiqua
S V Moffett Co (Cushman Turf, Heckendorn) Cohoes 518-783-0668
S V Moffett Co (Cushman Turf, Fuerst Bros, Heckendorn) West Henrietta 716-334-0100
Walter F Nicke (Hermann A Wirth) Hudson
Orag International Ltd (Royer) Melville 516-549-2705, 2706
Ortner's Farm Machinery (McMillen) North Java 716-535-7671
Pagano Tractor & Implement Inc (Buffalo Turbine) Sheridan 716-673-1345
John Reiner & Co (Teledyne) Syracuse 315-474-5741
Rogers Branchport Hardware (Hermann A Wirth) Branchport
Rolle Brothers Inc (McMillen) Riverhead
Al Saffer & Co (Hermann A Wirth) Port Chester
Seneca Supply Co (Artic Mizer) Ithaca
Service Hardware (Hermann A Wirth) Brocton
Service Hardware Co (Hermann A Wirth) Westfield
Slater Supply Co (Hermann A Wirth) Farmingdale
Charles R Standish (Hermann A Wirth) Naples
Storr Tractor Co (Royer, Ryan Turf) Bohemia 516-589-5222
Tri-Lakes Equipment Co (Artic Mizer) Cazenovia
Wayne Floral Co (Hermann A Wirth) Newark
York Chemical Co (Power Spray Tech) Garden City Park 516-741-4301

North Carolina

Adams Concrete Products Co (Grass Pavers) Raleigh 919-851-6220
Cumberland Tractor Co (McMillen) Fayetteville 919-483-3892
Eastern Turf Equipment (Wheel Spray) Fayetteville 919-483-0179
Froshaw Chemicals Inc (Power Spray Tech) Charlotte 704-372-6790
King-McIver Sales Inc (Teledyne) Greensboro 919-294-4600
Jim Myers & Son Inc (Otterbine-Barebo) Charlotte
Nash Equipment Co (McMillen) Burgaw 919-259-5134
Porter Brothers Inc (Cushman Turf, Heckendorn, Otterbine-Barebo) Shelby 704-482-3424
E J Smith & Sons Co (Royer, Ryan Turf) Charlotte 704-394-3361
William Strickhouser (Buffalo Turbine) Charlotte 704-333-2523
Western Carolina Tractor Co (McMillen) West Asheville 704-667-4511

North Dakota

Butler Machinery Co (Cushman Turf) Fargo 701-280-3100
Northern Engine & Supply Co (Teledyne) Fargo 701-232-3284
Swanston Equipment Co (Buffalo Turbine, Otterbine-Barebo) Fargo 701-293-7325

Ohio

Ace Termite Inc (Power Spray Tech) Sciotoville 614-776-2201
Akron Brick & Block Co (Grass Pavers) Akron 216-628-2608
Allied Farm Equipment Inc (Teledyne) Columbus 614-486-5283
Apple Farm Service (McMillen) Covington 513-526-4851
Baker Vehicle Systems Inc (Cushman Turf) Macedonia 216-467-2250
B F G Supply Co (Hermann A Wirth) Burton
Bobcat Enterprises Inc (McMillen) Cincinnati 513-874-8945
Bobat of Columbus (McMillen) Hilliard 614-876-1116
Bobcat of Dayton (McMillen) Dayton 513-293-3176
Case Power & Equipment (McMillen) Washington C H
Century Toro Distributors Inc (Ryan Turf) Cincinnati 513-563-2460
Century Toro Distributors Inc (Ryan Turf) Columbus 614-294-1631
Century Toro Distributors Inc (Cushman Turf, Ryan Turf) Toledo 419-865-7400
Cincinnati Eng & Parts Co (Teledyne) Cincinnati 513-221-3525
Geiser Equipment (McMillen) Mount Eaton 216-857-5381
Howard's Sales Inc (Cushman Turf) Columbus 614-445-7101
Jednak Floral Co (Hermann A Wirth) Hilliard
Killbuck Equip Inc (McMillen) Killbuck 216-276-4861
King Equipment (McMillen) Bublin 614-889-1073
Krigger & Co (Heckendorn, Otterbine-Barebo, Royer, Ryan Turf) Macedonia 216-467-2176
A M Leonard Inc (Hermann A Wirth) Piqua
Marcy Equipment Co (McMillen) Pierpoint 216-577-1129
Russell Maston (Buffalo Turbine) Elyria 216-365-5623
Mid-Mark Power & Equipment (McMillen) Minster 419-628-3655
Moon Equipment Co (Heckendorn, Otterbine-Barebo) Hilliard 614-876-0261
Moon Equipment Co (Cushman Turf, Heckenfdorn, Otterbine-Barebo, Royer) Cincinnati 513-771-1200
New Carlisle Tractor & Equipment (McMillen) New Carlisle 513-845-2141
Northland Farm Equipment (McMillen) Laurelville 614-332-1191
R C Distributing Co (Alpina) East Palestine
Reading Concrete Products (Grass Pavers) Cincinnati 513-874-2345
Southern Mill Creek of Ohio (Buffalo Turbine, Power Spray Tech) Cleveland 216-481-8404
Thornton & Wilson Inc (Hermann A Wirth) Maineville
J J Turner Inc (Royer) Cleveland 216-481-9308
Van Atta Seed & Implement Co (Fuerst Bros) Cincinnati
White Engine Service (McMillen) Willshire 419-495-2569

Oklahoma

Paul Blackeney Co (Otterbine-Barebo) Oklahoma City
Estes Chemical Co (Power Spray Tech) Oklahoma City 405-232-2493
Harley Industries (Teledyne) Oklahoma City 405-670-1341
Harley Industries (Teledyne) Tulsa 918-627-9220
Harter Concrete Products (Grass Pavers) Oklahoma City 405-236-0491
Justice Golf Car Co (Cushman Turf) Oklahoma City 405-634-8444
Nick Knott Turf Equip (Otterbine-Barebo) Tulsa
Tulsa Machinery Co (Buffalo Turbine) Tulsa 918-582-4489
Wait Sales (Rivlex Ind, Ryan Turf) Tulsa 918-584-3334

Oregon

Baltz & Son Co (Cushman Turf, Otterbine-Barebo, Royer) Portland 503-256-1453
Jim Gibbons Tool Co (Hermann A Wirth) Portland
A C Haag Co (McMillen) Salem 503-585-6101
Holland Bulb Co (Hermann A Wirth) Portland
I-D Inc (Teledyne) Portland 503-226-7966
Oregon Toro Distributors Inc (Ryan Turf) Wilsonville 503-682-2711
Nurserymen's Supply Inc (Hermann A Wirth) Hubbard
Pacific Tempered Glass Co (Otterbine-Barebo) Wilsonville
Roses By Fred Edmunds (Hermann A Wirth) Wilsonville
Van Waters & Rogers (Power Spray Tech) Portland 503-222-1721

Pennsylvania

A-Action Rental & Sales (McMillen) Pittsburgh 412-931-2204
Agrinomics Inc (McMillen) Factoryville 717-945-3933
D A Angelucci (Buffalo Turbine) Kennett Square 215-444-3911
Bortz Chain Saw (Alpina) Oley
Brighton By-Products Co (Hermann A Wirth) New Brighton
B & W Farm Supply (McMillen) Knox 814-797-1248
Cecil Jackson Inc (McMillen) Meyersdale 814-634-0314
Contractors Equip Service Co (Teledyne) Pittsburgh 412-323-1074
Elco Mfg Co (Power Spray Tech) Pittsburgh 412-782-1850
E C Geiger (Hermann A Wirth) Harleysville
Gran-Turk Sanitation Equip Co (Royer) King of Prussia 215-337-8666
George K Groff Inc (Hermann A Wirth) Bird-In-Hand
Krigger & Co (Cushman Turf, Heckendorn, Otterbine-Barebo, Royer, Ryan Turf) Pittsburgh 412-931-2176
R I Lampus Co (Grass Pavers) Springdale 412-274-5035
Lawn & Golf Supply Co (Fuerst Bros, Royer) Phoenixville 215-933-5801
Glenn Lick (Buffalo Turbine) North East 814-725-5377
Linsley Enterprises (McMillen) Pittsburgh 412-923-1234
Henry F Michell Co (Hermann A Wirth) King of Prussia
Nitterhouse Concrete Products (Grass Pavers) Chambersburg 717-264-6154
Philadelphia Toro (Otterbine-Barebo) Doylestown
Joseph L Pinto Inc (Teledyne) Philadelphia 215-747-3877
Power Pro Equipment Co (Heckendorn) New Holland 717-354-4241
Primex Centers Inc (Hermann A Wirth) Glenside
Chuck Reiber Sales (Alpina) New Castle
Rhodes Equipment Co (Cushman Turf, Ryan Turf) Southhampton 215-677-6000
Roth Equipment & Leasing (McMillen) Fairfield 717-642-5242
K C Schaeffer Supply Co (Hermann A Wirth) York
Superior Chemical Products Inc (Power Spray Tech) Philadelphia 215-289-7500

Rhode Island

Congdon Equipment (McMillen) Johnston 401-521-2670

South Carolina

Wilder Motor & Equipment Co (Teledyne) Columbia 803-799-1220

South Dakota

Dakota Turf Supply Inc (Cushman Turf, Heckendorn, Otterbine-Barebo) Sioux Falls 605-336-1873

Tennessee

Bob Ladd & Assoc Inc (Cushman Turf, Royer) Memphis 901-324-8801
Cortese Tree Specialists (Mauget) Knoxville 615-522-0533
Mid-Tenn Tractor (McMillen) Nashville 615-244-1539
Power Equipment Co (McMillen) Knoxville 615-577-5563
RCH Distributors (Teledyne) Memphis 901-345-2200
Regal Chemical Co (Maag) Knoxville 615-577-5443
Tieco Inc (Cushman Turf,Heckendorn, Otterbine-Barebo, Royer, Ryan Turf) Nashville 615-244-9871
Turfaid Inc (Ryan Turf) Memphis 901-332-8770
Wilder Motor & Equipment (Teledyne) Nashville 615-329-2365

Texas

Associated Supply Co (Cushman Turf, Ryan Turf) Amarillo 806-372-8386
Associated Supply Co (Cushman Turf, Ryan Turf) Lubbock 806-747-2893
Chemical & Turf (Royer) Dallas 214-348-9042, 341-9310
Clarich Spraying (Buffalo Turbine) Herford 806-364-1714
Estes Chemical Co (Power Spray Tech) Paris 214-785-2476
Estes Chemical Co (Power Spray Tech) Wichita Falls 817-766-0163
Ford's Chemical & Service Inc (Power Spray Tech) Pasadena 713-473-5525
G C M Inc (Otterbine-Barebo) Richardson
Goldthwaite's of Texas Inc (Royer) Fort Worth 817-332-1521
Goldthwaite's of Texas Inc (Royer) San Antonio 512-653-9660
Goldthwaite's of Texas Inc (Royer) Houston 713-666-4233
Goldthwaite's of Texas Inc (Royer) Dallas 214-241-3103
John P Goyen (Grass Pavers) Houston 713-433-3838
Growers International (Hermann A Wirth) Houston
Harley Industries (Teledyne) Corpus Christi 512-883-7491
Harley Industries (Teledyne) Dallas 214-638-4504
Harley Industries (Teledyne) Houston 713-492-6445
Harley Industries (Teledyne) Odessa 915-337-8676
Harley Industries (Teledyne) San Antonio 512-342-4255
Kimbrew-Walter Rose Growers (Hermann A Wirth) Grand Saline
North Haven Gardens Inc (Hermann A Wirth) Dallas
Oldham Chemicals Co (Power Spray Tech) Hendersonville 615-824-4059

GORDON'S
PROFESSIONAL TURF PRODUCTS
TRIMEC®
BROADLEAF HERBICIDE
Kills: DANDELIONS CHICKWEED KNOTWEED PLANTAINS HENBIT SPURGE
and Many Other Broadleaf Weeds
Contains: 2,4-D, MCPP and Dicamba
ONE GALLON COVERS 2-2½ ACRES.
KEEP FROM FREEZING
ACTIVE INGREDIENTS:
*Dimethylamine salt of 2,4-dichlorophenoxyacetic acid 27.59%
**Dimethylamine salt of 2-(2-methyl-4-chlorophenoxy) propionic acid 13.86%
***Dimethylamine salt of Dicamba (3,6-dichloro-o-anisic acid) 2.76%
INERT INGREDIENTS 55.79%
Total 100.00%
CAUTION: Keep Out of Reach of Children
See Back Panel for Additional Cautions
NET CONTENTS ONE U.S. GALLON
(3.785) LITERS
Fall is TRIMEC® time ...
TURF HERBICIDE

Any dandelion that is going to bloom next spring can be killed this fall with Trimec®

...And by taking advantage of Trimec's unmatched power this fall, you can improve the quality of your turf, reduce your costs, and enjoy life more next year.

Of course you know that dandelions and other fall-germinating weeds that thrive in the spring — such as Henbit, Black Medic, Mouse Ear Chickweed, Buckhorn Plantain, Broadleaf Plantain, and Thistle — are alive and growing the preceding fall. And you also know that, because of photoperiodism, temperatures and plant stage of maturity, killing such a wide range of weeds in the fall is quite different from killing dandelions in the spring.

So different, in fact, that in the past when turfmen had to rely on old-fashioned herbicides, most of them simply gave up on attempting fall weed control.

But the advent of Trimec has changed all that, and today thousands of professional turf managers are enjoying the many advantages of fall weed control.

Why Trimec is effective in the fall

Characteristically, fall-germinating weeds that infest manicured turf have been blown in, and germinate after the equinox when fall rains begin. Because of photoperiodism, they grow very slowly and old-fashioned herbicides just don't have a broad enough spectrum and synergistic power to kill them in the cool temperatures of fall.

But Trimec is not like other herbicides. Trimec is a patented herbicide manufactured by PBI/GORDON Corporation. Three chemicals: 2,4-Dichlorophenoxy acetic acid, 2-methyl-4-chlorophenoxy propionic acid, and 3,6-Dichloro-o-anisic acid are all reacted as acids, under controlled laboratory conditions, to form the Dimethylamine salt of Trimec. The resulting Trimec product has unparalleled strength in weeds, caused by the synergism that occurs from uniting the three acids.

And thus it is that Trimec is able to wipe out these fall-germinating weeds. Even when temperatures fall below 50 degrees, or even after a freeze, Trimec will translocate throughout the root system, resulting in total kill.

Only Trimec has all these advantages:

- Controls the widest range of broadleaf weeds.
- Gets hard-to-kill species with one treatment.
- Wide safety margin for lawn grasses and ornamentals.
- Minimum hazard from root absorption.
- No vapor action after application.
- Effective weed control in a wide range of temperatures.
- Unique formula overcomes water-hardness problems.
- Treated areas may be reseeded within two weeks.
- Non-flammable and non-corrosive in use.
- Stable several years above 32°F.
- Biodegradeable; friendly to the environment.

The advantages of fall weed control

In the fall, your sprays will encounter less wind, rain and mud. And in the fall the translocation of the Trimec to roots of the weeds is enhanced. Ornamentals, going dormant, are less prone to drift damage. And, with mowing finished, you have more time in the fall than in the spring.

But the really good news happens the following spring when you don't have to drop everything to wipe out a bunch of embarrassing dandelions or other early spring weeds.

A test is convincing

The number of professional turfmen who now spray in the fall with Trimec has increased dramatically in recent years. If you are not among their numbers, we urge you to try spraying with Trimec this fall... at least on a test area where you can observe the results next year.

Talk to your Gordon distributor.

TRIMEC® is a registered trademark of PBI/GORDON Corporation, U.S. patent No. 3,284,186.

GORDON'S

PROFESSIONAL TURF PRODUCTS

pbi/gordon corporation

1217 WEST 12TH STREET
P.O. BOX 4090
KANSAS CITY, MISSOURI 64101
816/421-4070

Circle No. 122 on Reader Inquiry Card

Equipment Dealers

continued

Oldham Chemical Co (Power Spray Tech) Memphis 901-794-0084
Public Health Equipment & Supply (Buffalo Turbine) San Antonio 512-532-1141
Public Health Equipment & Supply (Buffalo Turbine) Carrollton 214-245-8001
Fred Rodell & Associates (Power Spray Tech) Houston 713-932-0226
SW Toro New Mexico Inc (Cushman Turf, Otterbine-Barebop, Ryan Turf) El Paso 915-542-1671
Texas Industries (Grass Pavers) Dallas 214-637-3100
Turf Tractor Equipment Co (Heckendorn) Amarillo 806-358-3641
Van Waters & Rogers (Power Spray Tech) Dallas 214-239-9111
Van Waters & Rogers (Power Spray Tech) Houston 713-683-8372
Walco International (Buffalo Turbine) Hereford 806-364-1714
Watson Distributing Co (Cushman Turf, Heckendorn, Rivlex Ind, Ryan Turf) Dallas 214-630-2222
Watson Distributing Co (Cushman Turf, Heckendorn, Rivlex Ind, Ryan Turf) Houston 713-771-5771
Watson Distributin Co (Cushman Turf, Heckendorn, Rivlex Ind, Ryan Turf) San Antonio 512-654-7065
Womack Nursery Co (Herman A Wirth) De Leon
World of Green Inc (Big John Tree Transplanter) Arlington 817-469-8943

Utah

General Implement Dist (Teledyne) Salt Lake City 801-972-4321
Boyd Martin Co (Cushman Turf, Ryan Turf) Salt Lake City 801-521-7202
Steve Regan Co (Buffalo Turbine) Murray 801-268-4500
Reliable Laboratories Distributors (Buffalo Turbine) Sandy
Turf Equipment (Otterbine-Barebo) Salt Lake City
Van Waters & Rogers (Power Spray Tech) Salt Lake City 801-328-1112

Virginia

Brockwell Equipment (Artic Mizer) Richmond
Custom Equipment (McMillen) Manassas 703-368-1818
Hampton Rhodes Tractor & Equip (McMillen) Hampton 804-838-3750
Hill's Irrigation Corp (Otterbine-Barebo) Front Royal
Jeffords Equipment (Artic Mizer) St Albin
Richmond Block Co (Grass Pavers) Richmond 804-353-9501
Richmond Power Equip Co (Ryan Turf) Richmond 804-355-7831
Superior Chemical Products Inc (Power Spray Tech) Norfolk 804-480-2026
Teledyne Wisconsin Total Power (Teledyne) Springfield 703-569-9397
Turf Equipment & Supply Co (Toro, Sensation, Olathe, Snowco) 301-796-5575

Washington

Alaska Western Industries (McMillen) Seattle 206-762-7110
Audubon Sales Inc (Cushman Turf) Spokane 509-325-2527
Burrows Tractor Co (McMillen) Yakama 509-457-8105
Buck Haven (Alpina) Northport
Grass Pavers of the Inland Empire (Grass Pavers) Spokane 509-455-5140
Inland Toro Distributors Inc (Cushman Turf, Ryan Turf) Spokane 509-535-9756
Kemi-Kil Products Co (Power Spray Tech) 509-453-1315
Lacy Equipment (McMillen) Lacy 206-491-8800
J M McConkey & Co (Royer) Sumner 206-863-8111
Meridan Equipment (McMillen) Billingham 206-398-2141
Harry Sharp & Son (Hermann A Wirth) Seattle
Sunset Northwest (Cushman Turf, Ryan Turf) Bellevue 206-455-5640
Alred Teufel Nursery Inc (Hermann A Wirth) Everett
Turf & Toro Dist Inc (Otterbine-Barebo) Kent
Van Waters & Rogers (Power Spray Tech) Kent 206-872-5000
Van Waters & Rogers (Power Spray Tech) Spokane 509-534-0405
Van Well Nursery (Hermann A Wirth) Wenatchee

West Virginia

Bakers Equipment Eng Co (Otterbine-Barebo, Royer, Ryan Turf) Charleston 304-344-3441
Engine Sales & Service (Teledyne) Charlestown 304-342-2131
Hayhurst Equipment Inc (McMillen) Pennsboro 304-659-2917
Jefferds Inc (McMillen) Huntington 304-529-3331
Pan Handle Equipment (McMillen) Chester 304-387-1248

Wisconsin

A & E Equipment (McMillen) Madison 608-257-3622
B & B Equipment Co (Buffalo Turbine) Wisconsin Rapids 715-423-6220
Bend Industries (Grass Pavers) West Bend 414-334-5557
E-Z Rental & Equip Sales (McMillen) Rhinelander 715-369-2600
Falls Block Inc (Grass Pavers) Menomonee Falls 414-251-8330
Horst Distributing Inc (Cushman Turf, Royer) Chilton 414-849-2341
J B Equipment (McMillen) Hales Corner 414-425-7755
Reinders Brothers Inc (Cushman Turf, Fuerst Bros, Otterbine-Barebo, Ryan Turf, Wheel Spray) Elm Grove 414-786-3300
Service Motor Co (McMillen) Dale 414-667-4202
Service Motor Co (McMillen) Fond du Lac 414-923-1768
Teledyne Wisconsin Total Power (Teledyne) Milwaukee (Waukesha) 414-786-1600
Trees On The Move (Big John Tree Transplanter) Hales Corner 414-422-0303
Verns Automotive (McMillen) Clinton 608-676-2217
West Shore Equipment (McMillen) Milwaukee 414-425-5200
Wisconsin Cranberry Consultant Service (Buffalo Turbine) Wisconsin Rapids 715-423-4871
Wisconsin Turf Equipment Corp (Cushman Turf, Heckendorn, Royer) Janesville 608-752-8766
Wisconsin Turf Equipment Corp (Royer) New Berlin 414-544-6421

CANADA

Alberta

Carlyle Co (Otterbine-Barebo) Edmonton
Consolidated Western Indus Co Ltd (Cushman Turf) Edmonto 403-484-7181
Consolidated Western Ind Co Ltd (Heckendorn) Calgary 403-243-1599
Consolidated Western Ind Co Ltd (Heckendorn) Edmonton 403-452-5835
Interprovincial Turf Ltd (Royer) Calgary 403-243-5180
Interprovincial Turf Ltd (Royer) Edmonton 403-436-6560
Kem-San Ltd (Buffalo Turbine, Power Spray Tech) Edmonton 403-484-8185
Mandem Div Asamera Oil Co Ltd (Teledyne) Calgary 403-252-2201
Mandem Div Asamera Oil Co Ltd (Teledyne) Edmonton 403-465-0244
Westcan Hort Ltd (Royer) Calgary 403-266-5688
Westward Power Equipment (Cushman Turf, Ryan Turf) Edmonton 403-453-3646

British Columbia

Fallis Turf Equipment Ltd (Cushman Turf, Royer, Ryan Turf) Richmond 604-277-1314
Multi-Turf Specialists Ltd (Heckendorn) Delta 604-946-7011
Pacific Engines & Equipment Ltd (Teledyne) Vancouver 604-254-0804
Western Diesel Sales & Mfg Ltd (Teledyne) Vancouver 604-253-7585

Manitoba

Consolidated Turf Equipment Ltd (Cushman Turf, Ryan Turf) Winnipeg 204-633-7276
Even Spray Equipment (Buffalo Turbine) Winnipeg 204-256-0227
Mandem Div Asamera Oil Co Ltd (Teledyne) Winnipeg 204-885-4440

New Brunswick

Mandem Div Asamera Oil Co Ltd (Teledyne) Moncton 506-854-0982

Nova Scotia

Halifax Seed Co (Royer) Halifax 902-454-7456
MacLeod Equipment Ltd (Cushman Turf, Ryan Turf) Dartmouth 902-469-9361

Ontario

Abell Waco Ltd (Buffalo Turbine) Rexdale 416-677-6898
Cornell Welding & Fabricating Ltd (Grass Pavers) Woodstock 519-537-6770
Duke Lawn Equip Ltd (Cushman Turf, Heckendorn, Ryan Turf) Burlington 416-637-5216
Ken-San Ltd (Buffalo Turbine, Power Spray Tech) Oakville 416-845-2271
Mandem Div Asamera Oil Co Ltd (Teledyne) Toronto (Mississauga) 416-625-4400
Ontario Turf Equipment (Otterbine-Barebo) London
Sanex Chemicals Ltd (Buffalo Turbine, Power Spray Tech) Mississauga 416-677-4890
Spramotor Ltd (Royer) London 519-681-9660
Jack Van Klaveren Ltd (Hermann A Wirth) St Catharines

Quebec

Agri-Tech Inc (Royer) Boucherville 514-655-7230
Ken-San Ltd (Buffalo Turbine) Saint-Laurent 514-332-5744
Mandem Div Asamera Oil Co Ltd (Teledyne) Montreal 514-342-9233
Morin Equipment (Cushman Turf, Ryan Turf) Portneuf 418-878-3163
Morin Equipment (Cushman Turf, Ryan Turf) Longueil 514-527-3406

Saskatchewan

Brandt Machine & Mfg Co (Royer) Regina 306-525-1314
Brandt Machine & Mfg Co (Royer) Saskatoon 306-652-7876
Mandem Div Asamera Oil Co Ltd (Teledyne) Regina 306-523-2631
Mandem Div Asamera Oil Co Ltd (Teledyne) Saskatoon 306-244-1505

7. Chemical Dealers

Alabama

Cassco (Maag) Montgomery 205-272-2140
Estech General Chemicals Corp (Estech) Montgomery 205-832-4280
Marker's of Clubview (Estech) Gadsden 205-546-5358
Tieco Inc (Estech) Montgomery 205-834-3705

Alaska

Thermo-Kool of Alaska Inc (Int'l United Chem) Anchorage 907-276-1328

Arizona

Arizona Tree Injection (Mauget) Phoenix 602-944-3431
Capitol Nursery Supply Inc (Estech) Phoenix 602-272-5508
Lawn & Garden Supply (Aquashade) Phoenix 602-278-8585
National Fibre Corp (Int'l United Chem) Phoenix 602-253-3191
Target Chemical Co (Estech, Maag) Phoenix 602-269-6427

Arkansas

J-Marn (Mauget) Little Rock 501-225-5003
McCrary's Farm Supply (Aquashade) Lonoke 501-676-2766

California

Agri-Turf Supplies (Aquashade, Estech) Santa Barbara 805-963-3691
America Lake & Canal (Clean-Flo) Lafayette
Andersen Chemical & Turf Supply (Aquashade) Westminster 714-897-0202
Aqua-Tek Corp (Clean-Flo) San Diego
Butler's Mill Inc (Maag) San Diego 714-263-6181
Caceres Chemical Co (Estech) Los Angeles 213-876-1460
Cameron Chemical Co (Aquashade) Palm Springs CA 714-328-0606
El Camino Crop Supply Inc (Estech) Fremont 415-792-4031
El Camino Crop Supply Inc (Aquashade) Gilroy

Estech General Chemicals Corp (Estech) Los Angeles 213-264-5800
Harco Fertilizer Co (Estech) Cerritos 213-633-1819
Kellogg Supply Inc (Soil Products Development) Carson
Lawn Clinic Inc (Estech) Cupertino 408-253-1569
Moyer Chemical Co (Aquashade, Estech, Maag) San Jose 408-297-8088
Moyer Chemical Co (Estech, Maag) Santa Ana 714-549-2871
Pacific Lining Co (Clean-Flo) Indio
Robinson Fertilizer Co (Aquashade, Estech) Anaheim 714-632-9710
Ronco Chemical (Aquashade) Anaheim
Target Chemical Co (Estech, Maag) Cerritos 213-865-9541, 714-821-9020
Target Chemical Co (Estech, Maag) Fresno 209-291-7740
Target Chemical Co (Estech, Maag, Mauget Co) San Jose 408-293-6032
Weathercheck Wood Fiber Products (Int'l United Chem) Benicia 707-746-5060
Western Farm Service Inc (Aquashade) Oxnard 805-487-4961
Wilbur-Ellis Co (Aquashade) Fresno 209-226-1811

Colorado

Agri-Chem Inc (Estech) Fort Lupton 303-857-6663
Aquatic Ecosystems (Aquashade) Fort Collins 303-482-0842
L L Johnson Distr Co (Aquashade) Denver 303-320-1270
Keeton Rocky Mountain Fisheries Inc (Aquashade) Fort Collins 303-493-4831
Selco Supply Co (Mauget) Greeley 303-351-7110

Connecticut

Aquacon Associates Inc (Aquashade) New Milford 203-355-3137
Estech General Chemicals Corp (Estech) Portland 203-342-2420

Florida

AAA Tree Service (Mauget) Longwood 305-339-5242
Aquatic Systems Inc (Clean-Flo) Deerfield Beach
Bionomics Laboratory (Clean-Flo) Orlando
Environmental Quality Lab (Clean-Flo) Port Charlotte
Estech General Chemicals Corp (Estech) Winter Haven 813-293-3147
Estech General Chemicals Corp (Estech) Fort Pierce 305-464-3511
Gulf Shore Turf Supply Inc (Aquashade) Pensacola 904-968-2184
McMullen Feed Store (Estech) Clearwater 813-446-5961
Perco Inc (Clean-Flo) Maitland
F Herbert Robertson (Mauget Co) Panama City 904-763-5049
Southern Agricultural Insecticides Inc (Maag) Palmetto 813-722-3285
SunCoast Insulation Mfg Co (Int'l United Chem) Tampa 813-238-0486
Tieco Gulfcoast Inc (Estech) Pensacola 904-434-5475
Woodbury Chemical Co of Homestead (Aquashade) Princeton 305-247-0524

Georgia

Estech General Chemicals Corp (Estech) Atlanta 404-955-0774
Lawn & Turf Inc (Estech) Conyers 404-483-4743
Managed Environments Inc (Aquashade) Norcross 404-923-5877
Plant Growers Supply (Estech) Valdosta 912-244-2535
Regal Chemical Co (Maag) Atlanta 404-475-4837
Stephenson Chemicals Co (duPont) College Park 404-762-0194
Herbert Wyatt, Fish Biologist (Clean-Flo) Valdosta

Hawaii

Trees of Hawaii Inc (Mauget) Ewa Beach 808-682-5771

Illinois

Chicago Toro Turf Irrigation Inc (Aquashade) Itasca 312-773-2110
Arthur Clesen Inc (Aquashade) Wheeling 312-537-2177
Chuck Daugherty (Aquashade) Palatine 312-359-0602
Drake-Scruggs Equipment Inc (Aquashade) Decatur 217-428-3485
Estech General Chemicals Corp (Estech) East St Louis 618-271-5650
John B Fitzpatrick (Aquashade) Dwight 815-584-2545
Wendall Harris (Clean-Flo) Elmhurst
Liqui-Green Lawn Care Corp (Mauget Co) Peoria 309-243-5211
Olsen Distributing Co (Estech) Barrington 312-381-9333
Paarlberg Chemical Co (Estech) South Holland 312-474-3086
Professional Turf Specialties (Aquashade) Normal 309-829-5031
Professional Turf Specialties Inc (Estech) Normal 309-454-2469
Rowland's Equip Inc (Estech) Barrington 312-381-1084
Scientific Aquatic Weed Control (Clean-Flo) Gurnee
James Sublett (Aquashade) Hebron 815-648-4083
Tasty Lean Pork Inc (Aquashade) Palmyra 217-436-2108
TCI Insulation Inc (Int'l United Chem) Franklin Park 312-678-7500
Turf Products Ltd (Andersons, Aquashade, Estech, Maag) West Chicago 312-668-5537
Turf & Tree Supplies (Andersons) Rockton

Indiana

Aquatic Control Inc (Aquashade, Clean-Flo) Seymour 812-497-2410
Cory Orchard Supply (Andersons) Indianapolis
Desco Supply (Aquashade, Estech) Nappanee 219-773-7781
Indiana Turf Equip Corp (Estech) Indianapolis 317-291-2280
Kenney Machinery Corp (Aquashade) Indianapolis 317-872-4793
Lawn & Garden Supply Co (Estech) Evansville 812-424-0411
Midwestern Tree Experts Inc (Mauget) Indianapolis 317-291-0350
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Weed Patrol (Clean-Flo) Elkhart

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Gypsy Moth *from page 34*

an average oak tree 80 feet tall and 24 inches in diameter.

If policed properly, no danger to humans or animals exists. Costonis warns that if not policed properly, that is, if the capsules are not supervised while they are in the ground and removed before the applicators leave, you're "asking for a hell of a problem." Once the chemical with a concentration of 80 percent is in the tree, the danger of poisoning is minimal. "When seven or eight milliliters are put into trees which flush through 150-200 gallons a day, you get a dilution factor. An insignificant amount remains in the trees. You'd have to eat an awful lot of leaves to become ill," Costonis claims. "If the rules are followed, you can get 75-80 percent foliage protection."

Some experts fear that the injury the tree sustains during the injection may make the cure worse than the disease. Dr. Alex Shigo, chief scientist of the USDA's Forest Service Northeastern Forest Experiment Station in Durham, NH, states that "injections properly done can be beneficial; injections improperly done can be harmful." Shigo says that often holes are too deep, too wide and too far from the base of the tree. Too much pressure is also applied. "Don't go beyond the current growth ring," Shigo warns. "We have to trade off the injury to the tree with the benefits it gets. The process of injection will be with us; it's our responsibility to find ways to inject for the benefit of the tree and not to the detriment of the tree."

Costonis concurs and draws an analogy with a human doctor. "If you shoot yourself up with a compound, you get hurt. If a doctor does it the risk is minimal."

Arborists throughout the Northeast had positive results with their sporadic usage of injections. Ellis Allen of Allen Tree Experts, Inc., in Medfield, MA, summed up the feelings of many when he said although injections are effective they "won't take the place of sprays. They're too slow. Two men can't inject as quickly as they can spray. It's good for use on isolated trees or for people leery about spraying."

Sex pheromones were also used with mixed results. The scent given off confuses the male gypsy moth in order to decrease mating. It can also lure gypsys into traps. The expense, the incredible number of eggs spawned from one successful male and the fact that the traps draw the moths onto your property before they are caught prove that pheromones, like most weapons against the gypsy moth, are not a panacea.

Moth is a Nuisance

In late June, the gypsy moth stops chomping on trees and starts to pupate. From then on, the gypsy moths are more of a nuisance than any-

Continues on page 108

Sure, there's more to maintaining quality, disease-free turfgrass than a couple of fertilizer applications. But turfgrass scientists across the country are reporting that a fall application of IBDU (31-0-0) can produce turfgrass with better root development and less disease problems.

Dormant turfgrass plants continue to produce rhizomes and roots, even though vertical growth has stopped. During this time nitrogen should be made available to the turfgrass plant as carbohydrates are naturally accumulating. Thus, scientists say, the optimum timing for nitrogen applications is during the fall and early winter months.

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Gypsy Moth *from page 104*

thing else. "The moth's sole purpose in life is to mate," Walt Dages explains. Pesticides to stop the moths are not in use because they are either too expensive, or, like DDT, have been outlawed.

Consumer Reaction

Given that all the weapons against the gypsy moth have their advantages and their disadvantages, consumers beleaguered by the insatiable insects were bound to be frustrated. Some firms realized that during a crisis such as this one, education has to supplement insect control. "There was more education and a lot of media coverage this year. The crisis was more fully understood in 1981," according to Walt Dages. Dages's firm, the Bartlett Tree Expert Company, sponsored public meetings to further educate the public.

"From midwinter on, even before the season began, we had educational meetings to teach about the gypsy moth," says Dages. "They were extremely well attended. We held them in town halls and school auditoriums, people spilled out into the hallways. Very intelligent questions were asked. We always made sure there was a scientist, usually an entomologist, on hand. The meetings were very effective—you learn what to expect and what not to expect."

The Haupt Tree Company sent letters out to its clients at the end of the season. The letters were a "recapitulation of the season. We want people to be prepared for more," says Eric Haupt.

Even with the education and publicity, all was not quiet on the public relations front. People who had been sprayed but were unaware of the effective date of application, complained when they were revisited by the gypsy moth. People who were unable to get through to any tree companies and helplessly watched their trees lose their leaves, complained. People who feared the side effects of aerial spraying also complained.

Some arborists complained about inaccurate media coverage and emotionalism emanating from environmentalists. Old allegations that Sevin produces birth defects were resurrected and vehemently denied.

"By and large," according to Haupt, "the people we serve were very understanding. There was relative calm. A majority of our existing and new clientele had an understanding of the nearly crisis nature of the infiltration."

Refoliation Debate

The issue of refoliation surfaced and divided environmentalists and arborists. Dr. Dick Plunkett pointed to the Taconic State Parkway in New York as a good example. "Three weeks ago," Plunkett said in mid-July, "hundreds of thousands of acres were defoliated. The Taconic was

completely bare with nothing in sight; it looked like the landscape of the moon. It's now refoliated—you can't say you have a denuded landscape anymore."

"That doesn't mean there weren't trees that died," Plunkett continued. "Defoliation does accelerate tree mortality. In one or two years the number who would have died in eight or ten years, die. But those are the diseased and damaged trees, it will even out in the long run."

Some arborists contend that statements made by Plunkett and others foster a false sense of complacency. Plunkett and his compatriots maintain that they are trying to calm the hysteria and place the "crisis" in proper perspective.

All agree that "defoliation certainly doesn't help the tree." Dr. William Wallner, Forest Service research project leader for the ecology and management of northeastern forest insect pests, explains that after a "defoliation of one or two years, the tree is susceptible to invasions by secondary organisms, which are attracted to a weakened or declined tree. Whether a tree will die or not depends on other factors as well. After a complete defoliation in forest areas, it takes up to ten years to get back to what is considered normal growth."

Refoliation depletes the starch reserve of the tree, thus reducing the amount of food energy reserves that the tree needs to maintain itself during the winter months and to bud in the early spring.

This year, some trees that refoliated still had larvae on them and were defoliated for a second time around.

Better Luck Next Year?

While the various controversies and debates about the 1981 gypsy moth infestation have yet to die down, arborists are digging in for the 1982 infestation. Preliminary reports based on the number of egg masses laid seem to point to another busy year for arborists. "Unless we have a very cold winter or there's a great deal of disease, we could be due for even greater gypsy moth infestation and even greater defoliation," Plunkett warns.

This year's incredible infestation may have tipped the scales against the gypsy moth. Many larvae starved before they fully developed. The egg masses of females might be smaller and therefore more susceptible to egg parasites. The population of predators might increase.

Even if next year's infestation is worse than this year's, slightly different areas could be the hardest hit. Wallner compares it to an "old war movie with guns in the distance and big flashes at night. The pattern of movement is from the core area. They're blown out of the area, and they

Continues on page 110

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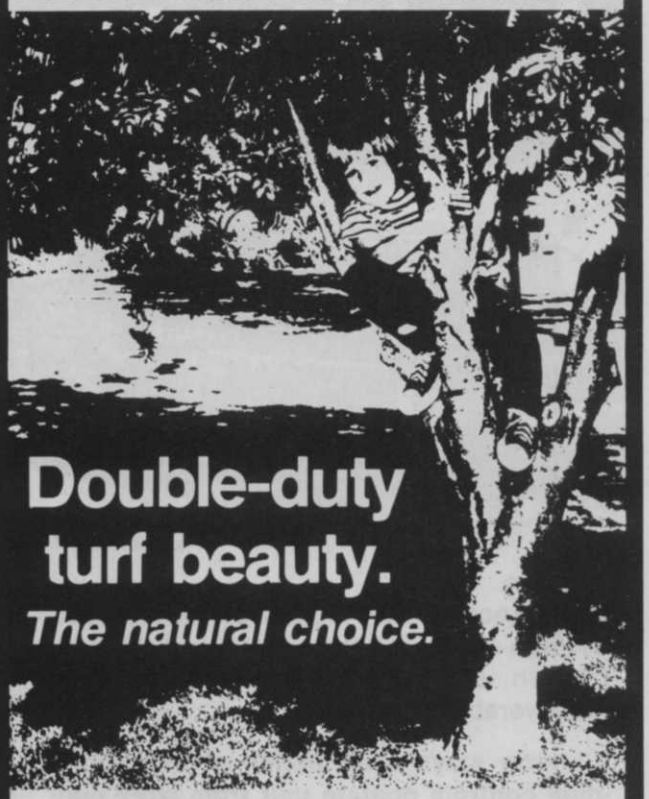

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Circle No. 173 on Reader Inquiry Card

Gypsy Moth *from page 109*

spread into another area." Mullane agrees: "They start in an area adjacent to what was worst."

Next year, arborists should be better able to handle the gypsy moth. Mullane observes that "each year some improvements are made over the previous year. We were more prepared this year than last. We had minimal equipment breakdown. This year we didn't have as many headaches with chemicals as we had the previous year. The pH of the water we were using would change and it would affect our spraying. This year we used litmus paper to test the water. We saw that it did change in some streams and became very alkaline."

Marilyn Mulhern of Woodwind Associates, Inc., Princeton, NJ, says that next year they'll have "more effective planning. This year we were running and putting out fires, we have to tighten up the planning."

Arborist's Windfall?

Was all this activity a windfall for the arborist? "It's an expensive proposition," says Walt Dages. "Everyone thinks the tree companies are cleaning up. We're doing an awful lot of billing, but the profit margin is not all that different. Infestation kills trees. Tree companies can't work on dead trees. It's not all favorable."

Richard E. Almstead, president of Almstead Tree Company, Inc., in Westchester, NY, says that the "picture everyone paints that we're all making a fortune is a lie. What with time-and-a-half for overtime, working Saturday and Sunday, and the prices that keep on going up, we're not making that much. For instance, chemicals keep on going up. You use a chemical at $1.50 a pound, you have to reorder it at $1.75 a pound. You price a job for $40, it costs you $38.50. We're doing a great volume, but at the bottom line, there's no great difference."

All the extra work and effort notwithstanding, doubts remain as to whether the gypsy moth has been conquered or if it will ever be conquered. Eric Haupt noticed that the Governor of North Carolina declared war on the gypsy moth. "I wish him luck. There were efforts in the '30s with the Civilian Conservation Corps to eradicate the gypsy moth. Thousands of men worked on a more limited infestation with literally no success."

Arborists will have to keep trying. **WTT**

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VEGETATION MANAGEMENT

By Roger Funk, Ph.D., Davey Tree Expert Co., Kent, Ohio

Q: *Why do trees in waterlogged soils show signs of wilting as if they are not getting enough water?*
A: Excess water replaces oxygen in the soil and the resultant poor aeration impedes water absorption by roots. It also reduces photosynthesis.

Many trees produce adventitious roots until they reach maturity, which may help explain why older trees are more apt to die back in waterlogged, compacted or construction-altered soils.

Q: *For the past two years the pine trees we had planted along a highway were severely injured by salt applied in the winter. Could you recommend some evergreen trees that would not be injured? (Michigan)*
A: All trees are probably injured, but some are more tolerant than others. Evergreen trees listed as salt-tolerant include Austrian pine, Japanese black pine and pitch pine. Evergreen trees listed as salt-intolerant that should *not* be planted, include Eastern white pine, hemlock and red pine.

Q: *What would you recommend for lawns that are growing in high sodium soils?*
A: Aside from the possible effects of excess salts which impair the absorption of water and nutrients, a high sodium content causes deaggregation of soil particles, resulting in compaction and a severe reduction in soil aeration and water infiltration. In addition, the availability of certain nutrients such as iron and manganese may be limited, whereas other micronutrients such as boron may become available in concentrations high enough to be toxic.

Sodic soils are usually corrected by amending with sulfur or gypsum (calcium sulfate) which replaces the exchangeable sodium on soil colloids. However, these materials are relatively slow-acting and repeated applications over a period of years may be necessary.

Ideally, the soil should be drenched prior to adding the soil amendment unless the soil is waterlogged and does not drain properly. If the materials are not incorporated, the soil should be watered after the application to move the materials downward into the root zone. After a period of several months, the soil should again be drenched to leach the soluble sodium salts.

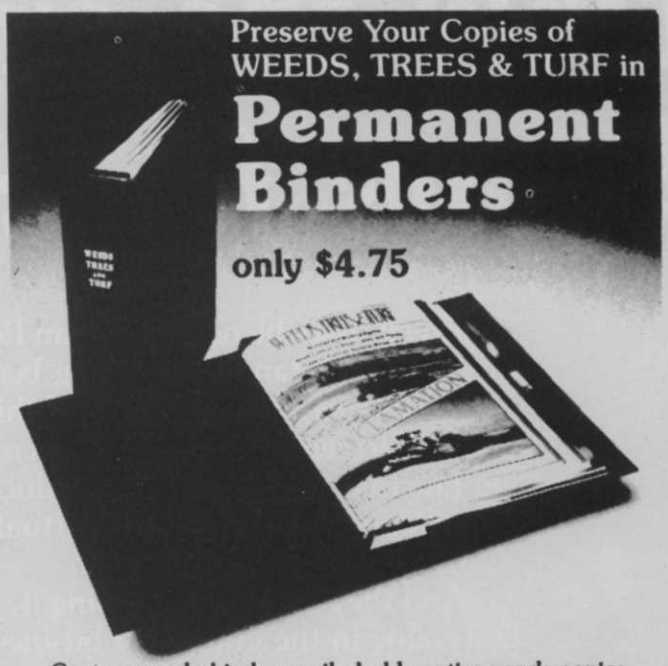
Core cultivation will improve the exchange of air and water between the atmosphere and soil and improve the penetration of fertilizers, pesticides and materials being used for the correction of sodic soils. The net effect is to encourage deeper, more extensive rooting less susceptible to environmental stresses.

Until the sodium problem is corrected, particular attention should be given to fertilization since many of the nutrients will be "fixed" as a result of the high sodium content. Soil tests and field plot studies will help determine the special requirements of turf growing in sodic soils.

Q: *What can you tell me about the rust disease that is affecting ash trees in the Philadelphia area?*
A: Ash leaf rust is caused by the fungus *Puccinia peridermiospora*. The fungus overwinters on the leaves of salt marsh and cord grasses. In midspring, wind-borne spores are carried as far as 100 miles to ash trees and infect leaves, petioles and shoots. Symptoms of ash leaf rust appear in late spring as yellow-orange spots on the upper surface of ash leaves and on petioles and shoots. After about two weeks, yellow-orange cups appear beneath the spots on the under surface of leaves and on other infected tissue. Heavy infestations cause leaf distortion and girdling of petioles and shoots. Early leaf drop is common, often resulting in complete defoliation by midsummer on severely infected trees.

Ash rust is seldom destructive enough to warrant either prevention or control measures. Sulfur sprays are sometimes recommended when trees have been infected for successive years or to protect ash for aesthetic reasons. Contact your local extension service to determine the status of sulfur sprays in your area.

Send your questions or comments to: Vegetation Management c/o WEEDS TREES & TURF, 757 Third Avenue, New York, NY 10017. Leave at least two months for Roger Funk's response in this column.



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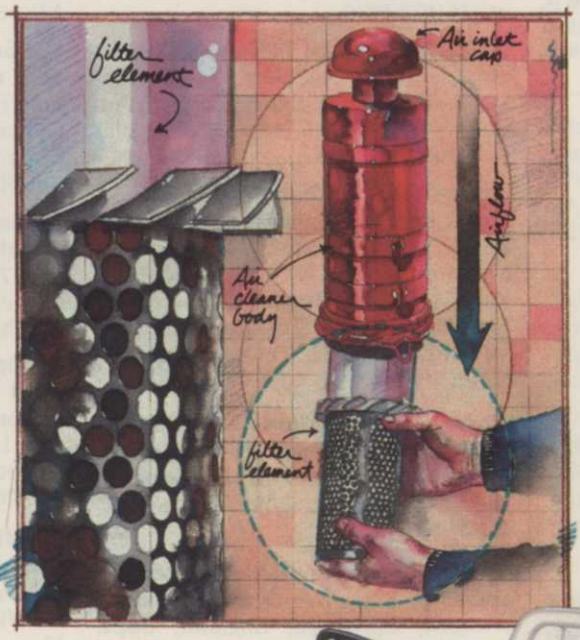
WE GET DOWN TO THE NITTY-GRITTY.



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Toro goes all out to give you the kind of riding rotary mower you want most.

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Circle No. 169 on Reader Inquiry Card

EVENTS

The current issue of WEEDS TREES & TURF carries meeting dates beginning with the following month. To insure that your event is included, please forward it, 90 days in advance, to: WEEDS TREES & TURF Events, 757 Third Ave., New York, NY 10017.

Tennessee Nurserymen's Association Annual Meeting and Show, Opryland Hotel, Nashville, TN, **Sept. 13-15.** Contact Tennessee Nurserymen's Association, P.O. Box 57, McMinnville, TN 37110, 615/473-3951.

Turf and Landscape Day, OARDC, Wooster, OH, **Sept. 15.** Contact Fred Buscher, Area Extension Agent, Landscape Horticulture, OARDC, Wooster, OH 44691.

Northern Michigan Turf Managers Association meeting, Acme, MI, **Sept. 15.** Contact C. E. "Tuck" Tate, President, NMTMA, 1147 Santo, Traverse City, MI 49684, 616/947-9274.

Tree Care-Urban Forestry Foreman Training, Kent, OH, **Sept. 14-25.** Contact Richard E. Abbott, Davey Environmental Services, 117 South Water Street, Kent, OH 44240, 800/321-7572 or 216/673-9511.

Alabama's Annual Turfgrass Conference, Auburn, AL, **Sept. 14-15.** Contact K. M. Sheffer, Extension Hall, Auburn University, AL 36849, 205/826-4985.

International Garden Trade Fair, Cologne, Federal Republic of Germany, **Sept. 13-15.** Contact Koln Messe, Messeplatz, Postfach 21 07 60, 5000 Koln 21, Federal Republic of Germany, Telex: 8 873 426, Telegram Address: INTERMESS Koln, Telephone: (O221) 821-1.

Virginia Tech Turfgrass Field Days, Blacksburg, VA, **Sept. 15-17.** Contact Dr. John Hall, 421 Smyth Hall, Virginia Tech, Blacksburg, VA 24061, 703/961-5797.

International Exhibition of Groundsmanship, Royal Windsor Racecourse, Windsor, Berkshire, England, **Sept. 15-17.** Contact Institute of Groundsmanship, P O Box 243 (Wolverton), Milton Keynes, Buckinghamshire MK12 2YG England.

National Lawn and Garden Distributors Association Convention, Opryland Hotel, Nashville, TN, **Sept. 15-18.** Contact National Lawn and Garden Distributors Association, 1900 Arch Street, Philadelphia, PA 19103.

Management Information System Seminar, Los Angeles, CA, **Sept. 16-17.** Contact ALCA, 1750 Old Meadow Road, McLean, VA 22102, 703/821-8611.

Living Plant Growers Association Annual Foliage Seminar, Queensway Hilton, Long Beach, CA, **Sept. 22.** Contact Lanny Walker, LPGA, 1419 21st Street, Sacramento, CA 95814, 916/448-2898.

Pacific Horticultural Trade Show, Long Beach Convention Center, Long Beach, CA, **Sept. 23-25.** Contact Lanny E. Walker, California Association of Nurserymen, 1419 - 21st Street, Sacramento, CA 95814, 916/448-2881.

Michigan State Florists' Association Annual Fall Convention, Hyatt Regency, Dearborn, MI, **Sept. 26-27.** Contact Richard Northrup, Michigan Florists' Association, 2420 Science Parkway, Okemos, MI 48864, 517/349-5754.

American Mining Congress 1981 Mining Convention, Denver, CO, **Sept. 27-30.** Contact American Mining Congress, Suite 300, 1920 N Street, NW, Washington, D.C. 20036.

Northwest Turfgrass Conference, Olympia, WA, **Sept. 28-Oct. 1.** Contact Dr. Roy L. Goss, Northwest Turfgrass Association, Western Washington Research and Extension Center, Puyallup, WA 98371, 206/593-8513.

Horticultural/Archaelogical Tour to China, 24 days, **Oct.** Contact Thomas R. Driscoll, 718 Swedesford Rd., Ambler, PA 19002.

Central Coast Turf Day, California Polytechnic State University, San Luis Obispo, CA, **Oct. 1.** Contact Ronald D. Regan, Head, Ornamental Horticulture Department, CPSU, San Luis Obispo, CA 93407, 805/546-0111.

Ohio Forestry Association Paul Bunyan Show, Hocking Technical College, Nelsonville, OH, **Oct. 2-4.** Contact Ohio Forestry Association, Inc., 665

Continues on page 116

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Circle No. 119 on Reader Inquiry Card

Introducing Pel-Tech™: Little benefin pellets that solve big turf problems.

The Andersons, the professional's partner, has done it again.
After rigorous, on-the-job liquid spray testing, we proudly introduce Pel-Tech . . . the state-of-the-art in pelletized benefin, an industry acclaimed top choice for effective pre-emergence crabgrass control.

We're gonna stir up some excitement.
Major lawn service companies that assisted us in proving Pel-Tech's high efficiencies and outstanding economies are already applying it confidently. And they're coming back for more. Cost savings are ranging from 20 to as high as 40 percent against leading competitive products. Exciting? You bet!

Here's some more good news:

- Pel-Tech disperses quickly with minimum mechanical agitation.
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- Won't stick to plant foliage.
- It's EPA approved.
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- Urea carrier delivers 35 percent nitrogen.

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The big difference that sets Pel-Tech *way out* in front of the competition is the result of our unique pellet forming process. Developed in The Andersons' research laboratory, the technique has enabled us to combine a nutritional urea carrier with a performance proven benefin compound.

What this means for you is that, with Pel-Tech, you're getting a stable herbicide product that's nearly 100 percent composed of active ingredients . . . *throughout each pellet!* Not just an outside coating.

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Circle No. 162 on Reader Inquiry Card

Events *from page 114*

East Dublin Road, Columbus, OH 43329, 614/846-9456.

International Bedding Plant Conference and Trade Show, Red Lion Inn/Seatac, Seattle, WA, **Oct. 4-8.** Contact Bedding Plants, Inc., P.O. Box 286, Okemos, MI 48864, 515/349-3924.

Horticultural Tour to China, Oct. 5-18. Contact Lanny E. Walker, Public Relations Director, California Association of Nurserymen, 1419 21st Street, Sacramento, CA 95814, 916/448-2881.

Northern Michigan Turf Managers Association meeting, Pinconning, MI, **Oct. 6.** Contact C. E. "Tuck" Tate, President, NMTMA, 1147 Santo, Traverse City, MI 49684, 616/947-9274.

Central Plains Turf Foundation/ Kansas State University Turf Conference, Manhattan, KS, **Oct. 6-8.** Contact Dr. Robert Carrow, Kansas State University, Dept. of Horticulture, Waters Hall, Manhattan, KS 66506, 913/532-6170.

Texas Surface Mine Reclamation Workshop, Holiday Inn Airport, San Antonio, TX, **Oct. 13-14.** Contact Dr. A. Edwin Colburn, Soil and Crop Sciences Department, Texas A & M University, College Station, TX 77843, 713/845-2935.

Symposium on Turfgrass Weeds-1981, Sheraton-Columbus Hotel, Columbus, OH, **Oct. 14-15.** Contact Dr. B.G. Joyner, Plant Diagnostic Labs, ChemLawn Corp., 6969 Worthington-Galena Road, Suite L., Worthington, OH 43085, 614/885-9588.

Southern California Turfgrass/Landscape Equipment & Material Educational Exposition, Costa Mesa, CA, **Oct. 14-15.** Contact Ed McNeill, Southern California Turfgrass Council, 1000 Concha Street, Altadena, CA 91001, 213/798-1715.

Southwest Turfgrass Association Annual Conference, Albuquerque, NM, **Oct. 15-16.** Contact Arden Baltensperger, Southwest Turfgrass Association, New Mexico State University, Agronomy Dept., Box 3-Q, Las Cruces, NM 88003, 505/646-3138.

International Society of Arboriculture, New England Chapter, Annual Meeting, Sheraton-Wayfarer Inn, Bedford, NH, **Oct. 18-20.** Contact Oscar Stone, Editor, 84 Daniel Drive, New Haven, CT 06513.

Florida Turf-Grass Association 29th Annual Conference and Show, Orlando, FL, **Oct. 18-22.** Contact Beth Eyman, FTGA, 1520 Edgewater Drive, Suite E, Orlando, FL 32804.

SWITCH HITTER

Shade or sun, Glade's a beauty that grows both ways. When trees and structures throw shadows on your plans, it's time to call in Glade to swing with the hot times and up to 60% shade. Excellent dark green color, fine texture and better disease resistance make Glade a big hit with crowds in recreation areas, or simply covering home and commercial grounds. Switch to Glade for consistently high scores in sun or shade. At your local wholesale seed distributor.

Glade KENTUCKY BLUEGRASS

U.S. Plant Patent 3151
License in Canada No. 2133

Circle No. 132 on Reader Inquiry Card

Another fine quality-controlled product of Jacklin Seed Company

PRODUCTS

Royer model 400 all-hydraulic, diesel powered shredder/mixer processes up to 250 cubic yards of soil or organic materials per hour. Designed by the Environmental Products Division of Royer Foundry & Machine Company, the unit can be used with loaders having buckets as large as 10 cubic yards. The 12′ 8″

discharge permits stockpiling or direct truck loading. Yet, the shredder/mixer, with its 90 h.p. engine, is designed for over the road travel between job sites.

A patented steel-cleated belt provides four-step continuous processing that shreds, aerates, mixes and automatically separates non-shreddables. An automatic electrically operated control system adjusts the feed conveyor speed to the load on the shredding belt so the machine is always operating a maximum output for the condition of the material being processed, without continuous operator control.

Circle No. 180 on Reader Inquiry Card

Furadan 10 G insecticide has been granted a label by the South Carolina Crop Pest Commission. The Commission issued a Special Local Need Registration to the Agricultural Chemicals Division of Mobay Chemical Corporation which permits soil application of the granules to pine trees for control of the Nantucket pine tip moth.

In early spring, 5 to 7 ounces of Furadan 10 G should be applied to each one inch of basal diameter in young southern pine plantations. Furadan 10 G should be applied to the soil under the drip-line of the trees and incorporated with a suitable device. Pines planted for Christmas trees should be treated two times per year, once in early spring and once in early summer, using 5 grams in the tree's first year, 10 grams in the tree's second year, 15 grams in its third year, and 20 grams in its fourth year. Five grams equals about one-half of a teaspoon.

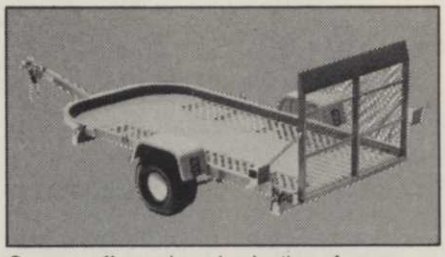
Circle No. 181 on Reader Inquiry Card

Concrete interlocking pavers with chamfered top edges are ideal for use in snow belt areas. The Interlocking

Continued on page 121

Bigger Specs for Bigger jobs.

Introducing the 4200 lb. capacity Trailer from Snowco.



Snowco offers a broad selection of ramp, tilt and box trailers, with capacitities from 1000 lbs. to 4200 lbs. Shown here, Snowco's ramp loading utility trailer Model 20-002, with a capacity of 1150 lbs.

Snowco built their reputation on sturdy dependable trailers. Their big new 4200 lb. capacity utility trailer has the same top-quality construction that makes every Snowco trailer rugged and practical. This newest trailer is ideal for hauling grounds maintenance equipment, construction equipment, ditchers, and other bulky, hard-to-handle loads.

Standard equipment includes:
- heavy-duty steel deck
- adjustable loading ramps
- hydraulic brakes
- mag wheel covers
- screw-jack tongue stand
- adjustable hitch height

Snowco's lo-ride suspension system makes loading easy **and** lowers the center of gravity for maximum stability and safety at legal highway speeds. What's more, the big new 4200 lb. capacity trailer is backed by the reliable Snowco Warranty.

No matter what your hauling needs, Snowco's new top-of-the-line trailer can handle it...at a big 4200 lbs.

Model 20-016

Snowco
Division of Beatrice Foods Co.
4386 McKinley, Omaha, NE 68112

Please send more information on your complete utility trailer line.

Name _____

Organization _____

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Phone _____

City _____ State _____ Zip _____

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Circle No. 163 on Reader Inquiry Card

Paving Manufacturers Association states that the actual construction and installation methods of the pavers eliminates the need for expansion joints. It also eliminates the cracking associated with poured concrete and asphalt roads and walk slabs.

The density of the pavers, less than 5% absorption, virtually eliminates freeze thaw problems. Their strength, 8000 psi, allows the pavers to be used in areas with heavy weight load requirements. Pavers are available in color as well as natural concrete.

Circle No. 182 on Reader Inquiry Card

The Water Machine, from Cascade Designs, Inc., is a portable pressurized watering system suitable for operation anywhere. The pressurized tank is sealed and spillproof. Clean and quiet, the machine uses pressure instead of pumps, motors or batteries. Each tank receives a permanent pressure charge at the factory. An internal valve system maintains the permanent air charge even when the water is fully discharged. The Water Machine comes in two models, Model Mini WM-8, with a tank volume of 8.5 gallons, and Model Maxi WM-18, with a tank volume of 18 gallons.

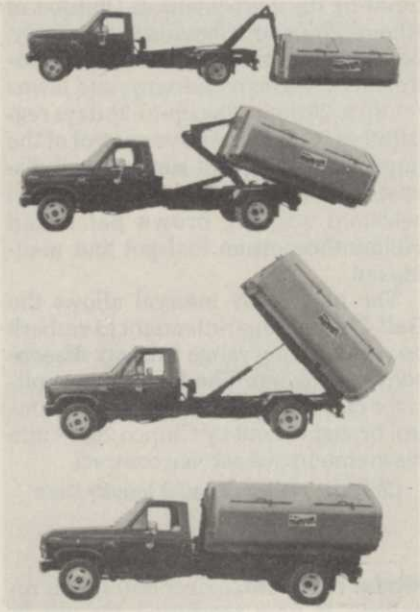
Circle No. 183 on Reader Inquiry Card

Tree & Shrub Root Feeder Fertilizer Cartridge is specially formulated to stimulate root growth and reduce shock

after transplanting. High in phosphorous and containing a combination of fast-acting and slow-release nitrogen, the cartridge aids new plantings in developing a sound root system as well as stimulating proper foliage and top growth. A free sample of starter cartridges is included with each Root feeder, from Ross Daniels, Inc. The new fertilizer cartridges are available in packages of 12 cartridges and an economy size containing 60 cartridges.

Circle No. 184 on Reader Inquiry Card

Hydraulic truck equipment, the La Font Multi-Lift HL-3 system, helps to transport refuse or bulk material more smoothly and economically. The inter-



changeable container system may be used on a truck chassis of 10,000 pounds gross vehicle weight. Demounting of the container, lifting up, and dumping is accomplished in less than 30 seconds from inside the truck cab via remote control.

Circle No. 185 on Reader Inquiry Card

Continues on page 122

ELIMINATE LEAF GRIEF

with a rugged Woods Leaf Mulcher

Are those leaves of brown getting you down? Well, if they are, you can eliminate "The Brown Leaf Blues" by specifying a handy leaf mulcher for your new Woods Model 59, 306, RM59 or RM306 mower.

The mulcher attaches easily and is designed to thoroughly disintegrate leaves, returning valuable organic nutrients to the soil.

And don't forget, if you already own one of these four Woods rotary lawn mowers, you can add a leaf mulcher to your existing unit.

Contact your Woods dealer for a demonstration or write for more information. Do it today for sure!

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Products backed by 34 years of dependable quality.

Circle No. 179 on Reader Inquiry Card

Chipco 26019 fungicide, manufactured by the Agrochemical Division of Rhone-Poulenc Chemical Company, has been registered by the EPA to control turf diseases on fairways and lawns for up to 28 days. The up-to-28 days registration is for preventive control of the important spring and summer turf diseases: dollar spot (including benomyl resistant strains), brown patch and Helminthosporium leafspot and melting out.

The new spray interval allows the Golf Course Superintendent to embark on a more long-range fairway disease control program. The lawn care applicator can incorporate the disease control brought about by Chipco 26019 into his maintenance service contract.

Circle No. 186 on Reader Inquiry Card

Hinder repellent, a deer and rabbit repellent, is now registered for use in South Carolina. Labeled for use in 31 other states and Canada, Hinder can be applied by conventional spraying methods or painted on the bark of trees and shrubs to prevent deer and rabbit damage. To repel deer, preventive applications should be made just prior to periods when deer can be expected to feed on crops. Re-treatment may be necessary after a heavy rainfall.

The repelling action is caused by odor, not by toxicity. The repelling ingredients are derived from natural sources. For fruit tree, vine and forage and grain protection, apply three to five gallons of Hinder in five to ten gallons of water per acre by air, or in 100 gallons of water per acre by ground sprayer. To protect vegetable and field crops, or nursery and ornamental crops, apply two to four gallons in five to ten gallons of water per acre by air, or in 50 to 100 gallons of water per acre by ground sprayer. Hinder, a Leffingwell product, is marketed by Thomson-Hayward Chemical Company.

Circle No. 187 on Reader Inquiry Card

"A Shear Deal," a promotion from Corona Clipper and Forge Company, consists of an all-purpose #60 pruning shear, a free all-leather scabbard and a free booklet on the "principles of pruning." Manufactured from a high-grade forging, the #60 pruning shear is designed to meet most pruning needs of the homeowner and the professional gardener. The pruner comes with

molded vinyl grip. The pruning shear and scabbard are packaged in a four-color, shrinked-wrapped package with sharpening and care information printed on the package back.

Circle No. 188 on Reader Inquiry Card

Does your turf make your reputation good as gold?

It does if it's seeded with Pennfine Perennial Ryegrass. Since its development by Penn State University in 1970, Pennfine has become the number one selling fine-leafed perennial ryegrass in the nation. And the thousands of turf professionals who continue using Pennfine are the biggest vote of confidence. You'll find top-quality Pennfine competitively priced and in ready supply. Pennfine Perennial Ryegrass, P.O. Box 923, Minneapolis, MN 55440

Circle No. 150 on Reader Inquiry Card

Model 5010 Modularmatic performs multiple tasks using interchangeable work modules. The 50-HP-class underground construction package can do

trenching, backfilling, utility backhoe work, vibratory plowing, hydraulic boring and other jobs, depending on which modules are used with the basic vehicle. The machine is as compact as Ditch Witches' 40-HP-class equipment.

Circle No. 189 on Reader Inquiry Card

Du Pont's newest herbicide, "Oust," has received an Experimental Use Permit (EUP). Formerly coded DPX-5648,

Continued on page 124

CASE STUDIES:

The compact trencher with a bagful of tricks: 25+4.

Most times the best player on the course is the one who makes all the shots. Long and short. Around trees. Through narrow openings. In all kinds of conditions.

That's just the kind of trencher the Case 25+4 is. A total player. With the compact D70 backhoe, a fully hydraulic backfill blade, and trenching capability to 66" (1676 mm) deep, the 25+4 can handle the toughest hole on your course. Whether it's for installation of sprinkler systems. Drainage work. Tree planting. Or just about anything.

At 23 hp (17 kW) it gives you a perfect balance of power and economy. It's articulated and has 4-wheel hydrostatic drive. So it'll probably never get trapped someplace you don't want it. And it won't tear up the turf getting to and from jobs.

The 25+4 is easy to operate and service. New amateurs quickly learn how to use it. And old pros just love it.

The Case 25+4. The ideal trencher for golf course maintenance. The compact trencher with a whole bagful of tricks.

J I Case
A Tenneco Company

TENNECO

Construction Equipment Division
700 State Street Racine, WI 53404 U.S.A.

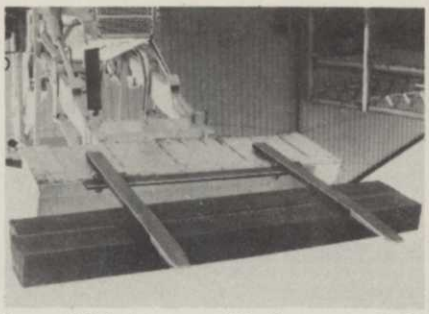
Circle No. 110 on Reader Inquiry Card

case®

Products *from page 122*

the herbicide will be tested widely in 39 states and is expected to be commercially available in 1982. "Oust" is a highly active, broad spectrum weed killer that controls numerous broadleaves and grasses, especially johnsongrass, one of the most noxious weeds in the country. The herbicide works best on actively growing plants. It translocates from the leaves to the rhizomes and kills the rhizomes. The company plans to market the product as a 75 percent DF (dry flowable) formulation, pouring easily and eliminating the problem of dust and material residue. Well suited for industrial weed control, comparatively low rates of application are necessary. Toxicological studies demonstrate favorable environmental characteristics and a low order of mammalian toxicity.

Circle No. 190 on Reader Inquiry Card



With Dyson Bucket forks, one worker with an open end wrench can convert a front end loader into a fork lift truck in minutes—without altering or damaging the bucket. The fork's unique design eliminates the need to drill holes or weld brackets to the bucket. Instead, the buckets are mounted with a clamp bar, which is secured to the wear plate of the bucket by four hex head bolts. Weight is thus evenly distributed throughout the entire surface of the bucket, reducing the twisting action on the wear plate and bucket that may occur with individually mounted forks. A convenient handle makes carrying and installing the forks easier. Capacities of the alloy steel forks from Jos. Dyson & Sons range from 4,000 to 8,000 lbs. The width of the fork can be adjusted in 6″ increments. Special designs and accessories are available.

Circle No. 191 on Reader Inquiry Card

Aero-Seeder #84, from Olathe Manufacturing Company, thatches and seeds simultaneously. It can also just be a thatcher. A 16 H.P. engine propels the machine, which is equipped with 10 point-12 gage blades, an electric start and a 20 pound seed hopper. The seeder shuts off automatically when the blades are disengaged, and returns to the previous setting when activated. Blades cut a continuous groove ⅛″ to 2″ deep, while the seed is being dropped via seed tubes. The Olathe Aero-Seeder is self-propelled.

Circle No. 192 on Reader Inquiry Card

Kleenup ready-to-use weed and grass killer dispenses Ortho's new Herbicide in a trigger squeeze, refillable applicator. Ortho introduced Kleenup in May, 1980. The new applicator bottle allows home gardeners to conveniently control such hard-to-kill weeds as Bermuda grass, nimblewill, dandelion, oxalis, quackgrass and Canadian thistle. Kleenup contains the Isopropylamine

Keep plantings, trees, shrubs, sod and indoor plants healthy with

WILT PRUF®

ANTI-TRANSPIRANT

WILT-PRUF, the proven anti-transpirant for over 30 years, protects against plant damage due to winter kill, transplant shock, wind burn, drought and air pollution. WILT-PRUF forms a protective coating holding in moisture on plant stems and foliage substantially reducing water loss during periods of excessive evaporation.

WILT-PRUF meets FDA specifications for use on edible crops; is 100% organic and biodegradable. Comes in convenient sizes: Pint, Quart, Gallon, 5-Gallon, 30-Gallon, 55-Gallon and Redi-Spray cans.

For more information call or write Dept. WTT

Wilt-Pruf Products

P.O. Box 4280, GREENWICH, CT 06830-0280

From the makers of SPRAY-STAY Sticker-Extender

Circle No. 177 on Reader Inquiry Card

salt of glyphosphate, a systemic herbicide which kills tops and roots.

Circle No. 193 on Reader Inquiry Card

A 20-page booklet, "John Deere Diesel Engines—Reliable Power for Your Needs," informs the public about John Deere's line of diesel engines and about the company itself. Learn about the history and commitments of the corporation, manufacturing, diesel research and development, and engine product support. The booklet is illustrated and profiles Deere's engines from 52 to 282 horsepower (39-210 KW).

Circle No. 194 on Reader Inquiry Card

Treetote plant lifting sling eases the burden when moving heavy, bulky, balled plant material. Made of heavy

nylon webbing, the sling is available from Dixon Nursery Co. in two sizes—14-26" ball size or 20-36" ball size. The chocker design goes on and off with ease and can be used by two or four people manually or with a fork lift, hoist or tractor boom.

Circle No. 195 on Reader Inquiry Card

Pennant #10

THE TROPHY TURF

What Do Turf Experts Say About Pennant* Ryegrass?

Universities and other organizations are continually testing new varieties of grasses under rigidly controlled conditions. Recognized experts objectively monitor these tests, and their findings are published as an aid to the grass seed industry and to consumers.

In a recent series of tests, PENNANT performed well even under low nitrogen conditions during the fall stress period, held its color as winter approached, and showed remarkable resistance to common lawn diseases. In both its warm and cool season ratings, PENNANT was tops. Where the need exists for a lawn that establishes quickly, PENNANT proved itself to be an ideal choice.

PENNANT also ranked high in overall turf performance. Its attractive, medium-high density, and fine leaf blades gave PENNANT a distinct edge over its competitors. Good mowing characteristics was another factor: its moderately dark-green color persisted through several summer mowings, and its blades were clean, not ragged.

So well did PENNANT perform in several of these independent turf trials, it was deservedly nicknamed "The Trophy Turf."

For more information call or write to:

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SEED COMPANY

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*Plant variety protection pending and anticipated

Circle No. 174 on Reader Inquiry Card

WT&T CLASSIFIEDS

RATES: 75 cents per word (minimum charge $20). Bold face words or words in all capital letters charged at $1.00 per word. Boxed or display ads charged at $70 per column inch (one inch minimum). Agency commissions will be given only when camera-ready art is provided by agency. For ads using blind box number, add $5 to total cost of ad. Send ad copy with payment to Dawn Anderson, WEEDS, TREES & TURF, 1 East First Street, Duluth, MN 55802.

BOX NUMBER REPLIES: Mail Box number replies to: WEEDS, TREES & TURF, Classified Ad Department, 120 W. 2nd St., Duluth, MN 55802. Please include box number in address.

USED EQUIPMENT

1 Brillion Turf Maker (Precision Grass Seeder) ..... $ 900.00
1 5-gang set Jacobsen Fairway Mowers ..... $ 2,500.00
1 Towable Fork Lift, Liftall model L-40 (heavy duty) $11,000.00
1 Land Leveler (like new)
Plane'O'Matic land plane
Can be used as a buck scraper or back dozer ..... $ 700.00
1 Deutz Diesel Engine and water pump
For 12 inch water line
Excellent Condition $10,000.00
1 Wisconsin T H D 21 horse engine & Berkely 3T pump
Trailer mounted, rubber tires.... $ 1,200.00

MOUNTAIN MEADOW SOD FARM
OLD RANCH ROAD, BOX 180,
PARK CITY, UTAH 84060
PHONE 1 (801) 649-9750, (801) 486-4514
9/81

A 1980 Mitts & Merrill M-11 12" six-cylinder Brush Chipper. Less than 100 hours. $6,750. Like New.— A 1981 Rittenhouse Shade Tree Sprayer. 750- gallon tank, 50 GPM pump, 60 HP Wisconsin motor, complete with electric hose reel and 300 ft. 3/4" hose. $11,000.—1980 John Deere 540-B Skidder. Rear axle moved back 24 inches, converted to a carrier or forwarder. Will carry a large spray machine or Skyworker. Unit has a 20,000 lb. front-mounted Braden winch, closed-in cab with 28Lx26 forestry tires. Detachable, closed center hydraulic 1045 new rebuilt Skyworker - can be attached or removed within two hours and custom-made saddle boom rest also bolts on. Unit also has a front mount brush rake which attaches to plow on front of Skidder. Selling price of $65,000 - unit is ready to work as is. James W. Taylor Tree Surgery, Inc., P.O. Box 311, 240-B Plains Road, Walden, New York 12586. (914) 561-3490. 9/81

Classified Advertising is
• Easy • Effective • Economical

FOR SALE. Mist Blower L-80 Hardie $700.00. Soil Shredder 18 HP—THD engine on wheels 30/yds/hr. $1,200.00. 2-1961 Dodge 1 ton flatbed trucks—low mileage $1,500.00 each. (312) 438-4770. 9/81

HI-RANGERS AERIAL BASKETS 65', 57', and 53'. Skyworkers aerial baskets 65', 50', 40'. Vermeer stump cutter 1560,6. Vermeer tree spade 66, TS 44. Asplundh bucket and brush chippers. Bean sprayer, 9 ton trailer. Parkway Tree Service, 12026 W. Cherry, Wauwatosa, Wisc. 53226. (414) 257-1555. TF

COMMERCIAL ROTARY MOWERS—32" to 84", New — Like New — Used — Reconditioned. Yazoo, Excel Hustler, Howard Price Turf Blazer, Toro, Jacobsen, Simplicity, Bob Cat. Some demonstrators available. All sales on a first come, first serve basis. Call or write for current list. KEI, 3630 E. Munkwitz Ave, Cudahy, Wisconsin 53110. (414) 744-7646. 9/81

Ryan Sod cutter w/rider $1,300. 7 gang Roseman $1,200. 5" irrigation pipe new 90¢ ft. 6" $1.50. Sod business. (414) 326-5267. 9/81

Caretree tree-spade 30', like new, Melroe bobcat 720 about 100 hours on new engine, Davis trailer. (205) 942-8268. 9/81

1978 PRENTICE MODEL 110 LOG/BRUSH LOADER with 310 grapple. EXCELLENT condition. Madison Truck Equipment, Inc., Madison, Wisconsin (608) 222-5591. 9/81

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For sale or rent — 78 in. Big John Tree Mover mounted on C-90 Chevy. 30,000 miles both new in October 1978, not used in 1980. Excellent condition. Many extras. Phone (517) 627-6200. 9/81

Like New Vermeer TS-24 tree spade $2500.00. Also 5 ft Lely Turf Shaper $3500.00. Phil Cooling, Durand, IL (815) 248-2775. 10/81

For Sale—A Lely turf shaper. 5-foot. Less than 30 hours. Very good condition. $4350. Call evenings (301) 896-3238. 9/81

FOR SALE: TS-44 VERMEER TREE-SPADE on 1977 4-Wheel Drive D-400 Dodge with extras. In great working condition. Shadetrees, Inc., Rt. 5, Box 429, Starkville, MS 39759. (601) 323-2568 before 7:00 am or after 6:00 pm. 9/81

HI-RANGER BUCKET TRUCKS, 54' and 51', Flatbed and chip box mitts - Merrill brush chipper. Allied Enterprises, Inc., W. 204 N. 11509 Goldendale Rd., Germantown, WI 53022, (414) 255-6161 anytime. TF

HELP WANTED

SALESMAN: Landscape contracting. Must have 3-5 years experience in commercial and large residential sales. Ability to qualify clients, knowledge of construction and aggressive attitude essential. Salary negotiable depending on qualifications. Send resume or call Landscape Design And Construction, 2559 Southwell, Dallas, Texas 75229. (214) 247-3121. 9/81

Grounds Superintendent. Responsible for all phases of maintenance of 800 acre campus; must be fully qualified including knowledge of sprinkler system design, installation and maintenance. Job available now. Salary: $1,318.92/1,527.72. Requests for application forms must be received by November 16, 1981. Write to: Personnel Dept., Idaho State University, Pocatello, ID 83209. ISU is an equal opportunity employer. Women and members of minority groups are encouraged to apply. 10/81

SOD FARM MANAGER OR TRAINEE—Area Location Eastern Long Island—Major Sod Grower. Knowledge of approved agricultural methods and agricultural equipment helpful. To be trained in sod production, responsiblity for planning daily operation and supervising farm personnel. Salary open. Housing can be arranged. Employee benefits including profit sharing and bonuses. Write WTT Box 275. 9/81

Turf Equipment Mechanic with at least 10 years experience. Must do above average work. Lewis Equipment Company, 320 Third Street, SW., Winter Haven, Florida 33880. 10/81

Wanted—Landscape Supervisor. Industrial and commercial experience essential for a position with fast growing operation in the North Atlanta area. Must be aggressive and willing to work. Salary commensurate with experience. Send resume to N.E.S.I., P.O. Box 263, Alpharetta, GA 30201.

CAREER OPPORTUNITIES with the sod industry leader. Due to the rapid on going expansion of our North American sod production capability, The Manderley Corporation is looking for management personnel. If you are interested in a career in agricultural management with an aggressive, fast moving company, we want to hear from you. Apply in writing to: The Manderley Corporation, R.R. #3, North Gower, Ontario K0A 2T0, Canada. Attention: Director of Personnel. 10/81

CHALLENGING CAREER. Above average pay; Two year associate in applied science degree in Golf Course Operations/Landscape Technology. Financial assistance available. Write Western Texas College, Snyder, TX., 79549. (915) 573-8541. 9/81

BRANCH MANAGER: Chemical Lawn Care firm is accepting applications for Managerial position. Must be experienced in route and service type business, responsible for sales personnel and administration. Must be willing to relocate in Ohio, Indiana or Kentucky areas. Write WTT Box 270. 11/81

FOR SALE

LAWN SEED. Wholesale. Full line of top quality grasses. Improved bluegrass varieties, fine fescues and fine bladed ryegrasses. We specialize in custom mixing. Oliger Seed Company, 2705 Wingate Avenue, Akron, Ohio 44314. Call collect (216) 753-2259. 1/82

NEW RAVEN 38" diameter 300 gallon fiberglass tanks with 18" hinged manway at wholesale prices. Call (502) 366-1415. TF

ZOYSIA MEYER Z-52 $2.00 per square yard, 200 yard orders. Cartwright Nursery Company—Collierville, TN 38017 (901) 853-2352. 10/81

FALCON

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Tall **Fescue**

New turf-type tall fescue of the 80's

You'll like this new, fine-textured variety with higher density than most of the currently available tall fescues. Falcon is a leafy, moderately low growing turf-type variety with pleasing green color and tolerance to heat and drought. It's a good performer under minimum maintenance programs, too. Throughout its area of adaptation, mature stands of Falcon have shown tolerance to wear and moderate shade which makes it useful for home lawns and play areas such as athletic fields and parks.

Contact us for more information.

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MISCELLANEOUS

Increase your profits this year with "Garden Tips" the monthly customer newsletter with your company name/phone. Proven response. . .cements customer relations, gets them to spend more, opens new doors expertly in new expansion areas. Low cost, effective profit building. Call today (516) 538-6444, we'll send complete information or write: Garden Tips, Box 117, Garden City, NY 11530. TF

LANDSCAPE DESIGN KIT, 37 rubber symbol stamps, ink pad, $38.50 postpaid. California add $2.16 tax. Stamps kit brochures available. American Stamp Co., Box 741, Dept. WT, Reseda, California 91335. Phone (213) 881-2808. TF

TREE PROBLEMS-Botanical, legal and appraisals. For directory of members of American Society Consulting Arborists in U.S. and Canada, write: Executive Director ASCA, 12 Lakeview Avenue, Milltown, N.J. 08850. (201) 821-8948. 9/81

WANTED

Wanted: Used Stainless Steel Combines, that aerates, rolls, sprays liquid, as formerly used by Lawn-A-Mat dealers. Write: Conestoga Golf & Country Club., Conestoga, Ontario N0B 1N0 or call 1-(519) 664-2234. 9/81

Want to buy solid landscape nursery business in Mt., Id., Ore., WA., N.M., Minn, Wisc, or CO. Willing to pay the price for a quality business. Write WTT Box 274.

Wanted—A Jacobsen 524-100 and a 548-100 seeder. In excellent condition. Call evenings (301) 896-3238. 9/81

"Wanted to Buy. Woods 5-ft Side Mount Mower. Call: (412) 793-4665 or (412) 793-3870 between 8:00 and 5:00 Weekdays."

Wanted: Bean Roto Mist, also a Bean hydraulic sprayer. Call Bombaci Tree Experts, Essex, Conn. (203) 767-1752. 10/81

Large Lindig & Royer Soil Shredders, Lewis Equipment Company, 320 Third Street, SW., Winter Haven, Florida 33880. (813) 294-5893.

BUSINESS OPPORTUNITIES

INTERESTED in expanding into **SHRUB & TREE CARE** (insect/disease control and feeding)? 1) Attend our Introductory All-Day Workshop/Seminar, Monday, Sept. 28, Hempstead, LI, NY ($65 fee) and/or 2) Attend our unique four-day **ACADEMY** Dec. 16-19, 1981. Prepares you—just as if you bought into a franchise—to take advantage of big profits waiting for you. Tuition $425, includes EVERYTHING YOU NEED to get started, including advertising, promotional pieces, specialized forms, and of course BASIC KNOWLEDGE from several teachers with specialized experience you'll find invaluable. Call Green Pro Executive Academies (516) 483-0100 or write to 380 S. Franklin Street, Hempstead, NY 11550. Remember, on-the-job tuition is the most expensive kind. Get it for a very small fee **before** you get on the job. We've already paid for the mistakes. 9/81

WANT TO BUY OR SELL a golf course? Exclusively golf course transactions and appraisals. Ask for our catalog. McKay Golf and Country Club Properties, 15553 N. East Street, Lansing, Michigan 48906. Phone (517) 484-7726. TF

HYDRO SEEDING BUSINESS — Limited number of franchises available in the Baltimore/Washington area. Write WTT Box 273. 9/81

Does leaf-tip shredding make your turf brown?

Switch to fine-leafed Pennfine Perennial Ryegrass. Bred for softer fibers that take a smooth, clean cut, Pennfine has set the standard for mowability against which other ryegrasses are compared. Get Pennfine, the most widely used fine-leafed perennial ryegrass. It's available just about everywhere. Pennfine Perennial Ryegrass, P.O. Box 923, Minneapolis, MN 55440

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Kentucky Bluegrass

Sod growers specify Touchdown for profit

Rapid development of marketable turf is the key to profitable sod production. That's why sod growers prefer Touchdown.

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Circle No. 153 on Reader Inquiry Card

Seeding REBEL in late September

Another leader goes to Washington . . .

Rebel
TURF TYPE TALL FESCUE

Washington, D.C.'s Congressional Country Club boasts some very well-known members. And some very demanding ones.

Bill Black, Greens and Grounds Manager, needed to rebuild and reseed the driving range which was completely redesigned by Ed Ault, golf course architect, to accommodate not only the members but professional golf events as well. But with virtually no topsoil, the grass had to be a tough variety with high-performance qualities. And one that would persist during commonly hot, humid summers in Washington, D.C. Bill's choice? A mix of 90% REBEL turf-type fescue with 10% BARON Kentucky bluegrass.

The range was seeded in late September. By mid-November — only seven weeks later — REBEL had exceeded the expectations. Bill had a dense, fine-leafed*, attractive turf.

*University test results prove REBEL to be as much as 30% finer and 188% denser than Kentucky 31.

(L to R) Bob Benning, Golf Professional, Vanessa Jensen, Lofts/Maryland and Bill Black, Greens and Grounds Manager admire the REBEL turf only 7 weeks after seeding.

REBEL - the tall fescue that's going places. Go with REBEL!

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